# City of Banning

## Community Development Department

**NOTICE OF PUBLIC HEARING AND NOTICE OF INTENT (NOI) TO ADOPT A MITIGATED NEGATIVE DECLARATION (MND)(EA 23-1506) FOR CONSIDERATION OF GENERAL PLAN AMENDMENT 23-2502, ZONE CHANGE 23-3502, TENTATIVE PARCEL MAP 23-4002, AND DESIGN REVIEW 23-7008, A PROPOSAL TO ALLOW FOR THE NEW CONSTRUCTION AND OPERATION OF A STEEL DISTRIBUTION FACILITY WITH A 42,510 SQUARE-FOOT WAREHOUSE BUILDING OF WHICH 3,434 SQUARE FEET IS DESIGNATED FOR OFFICE SPACE ON 14.92 GROSS ACRES OF LAND LOCATED IN THE INDUSTRIAL (I) AND GENERAL COMMERCIAL (GC) ZONING DISTRICTS AND GENERALLY LOCATED ON THE NORTH SIDE OF WEST LINCOLN STREET BETWEEN SOUTH 8TH STREET AND SOUTH 16TH STREET (APN Nos. 540-180-020, 540-180-022 and 540-180-026).**

**NOTICE IS HEREBY GIVEN** of a public hearing before a Special Meeting of the City of Banning Planning Commission, to be held on Wednesday, May 29, 2024, at 5:30 p.m. in the Council Chambers, City Hall, 99 East Ramsey Street, Banning, California, to consider an Initial Study/Mitigated Negative Declaration for General Plan Amendment 23-2502, Zone Change 23-3502, Tentative Parcel Map 23-4002, and Design Review 23-7008 to allow for the construction and operation of a steel distribution facility with a 42,510 square-foot warehouse building of which 3,434 square feet is designated for office space on 14.92 gross acres of land located in the Industrial (I) and General Commercial (GC) zoning districts and generally located on the north side of Lincoln Street between South 8th street and South 16th Street (APN Nos. 540-180-020, 540-180-022 and 540-180-026). The Community Development Department has determined, on the basis of the Initial Study, that the project will not have a significant effect on the environment with implementation of recommended mitigation measures. In accordance with the disclosure requirements of CEQA Guidelines Section 15072(g)(5), the Project site is not listed as a hazardous property as designated under Section 65962.5 of the Government Code.

An Initial Study/Mitigated Negative Declaration (IS/MND) prepared for the project is available for public review and comment for a 30-day public review and comment period prior to the public hearing beginning FRIDAY, APRIL 26, 2024, and concluding MONDAY, MAY 27, 2024.

Information regarding the Initial Study/Mitigated Negative Declaration can be obtained by contacting the City's Community Development Department at (951) 922-3125, or by visiting the following link: https://banningca.gov/Archive.aspx?AMID=60&Type=&ADID=

To observe the live meeting through your personal computer, but not participate with video or oral comments, you may use your computer or smart phone to enter the following or click on the link: https://banninglive.viebit.com or on the Banning Government Channel on Cable Television.

All parties interested in speaking either in support of or in opposition to this item are invited to attend the hearing by accessing the videoconference or by sending their written comments by email to scalderon@banningca.gov or by mail to the Community Development Department, Planning Division, City of Banning at 99 E. Ramsey Street, Banning, California, 92220.

If you challenge any decision regarding the above proposal in court, you may be limited to raising only those issues you or someone else raised in written correspondence delivered to the Planning Commission Recording Secretary prior to, at, or during the time the Planning Commission makesits recommendation on the proposal; or, you or someone else raised at the public hearing or in written correspondence delivered to the hearing body at, or prior to, the hearing (California Government Code, Section 65009).

BY ORDER OF THE COMMUNITY DEVELOPMENT DIRECTOR OF THE CITY OF BANNING, CALIFORNIA

Adam Rush, M.A., AICP
Community Development Director

Dated: April 23, 2024
Publish: April 26, 2024

**CITY OF BANNING**

**PROJECT NUMBERS:** DR 23-7008, ENV 23-1506, GPA 23-2502, ZC 23-3502 and TPM 23-4002 (TPM 38659)

# PROJECT VICINITY

**ADDRESSES/APN's:** 1219 and 1431 W. Lincoln Street/540-180-020, 540-180-022, 540-180-026

**ZONES:** Industrial (I) and General Commercial (GC)

N W E S

0 100 200 300 400 500

Feet

5/25/2023

WILLDAN Engineering extending your reach

City of BANNING INCORPORATED 1913 ENDLESS OPPORTUNITY

HAYS ST

RAMSEY ST

I-10

PROJECT LOCATION

UNION PACIFIC RAILROAD

540-180-022

540-180-026

540-180-020

1219

1431

LINCOLN ST

ADAMS AVE

MONROE ST

JEFFERSON ST

16TH ST

12TH ST

8TH ST

6TH ST

BARBOUR ST

FASHION WAY

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

# Brown Strauss Industrial Project
# INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Design Review No. DR 23-7008

**Prepared for**

**City of Banning**
Community Development Department • Planning Division
99 E. Ramsey Street
Banning, CA 92220
Contact: Emery Papp, Senior Planner

**Applicant**
Brown Strauss, Inc.
2495 Uravan Street
Aurora, CO 80011

**Prepared By**

SAGECREST
PLANNING + ENVIRONMENTAL

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Contact: Kelly Ribuffo, Senior Project Manager

**March 2024**

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**Appendix B-1** – *Brown Strauss Industrial Project, General Biological Resources Assessment,* NOREAS, Inc.*,* July 2023

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**Appendix C –** *Cultural and Paleontological Resources Assessment Report for the Brown Strauss Industrial Project,* Cogstone, May 2023

**Appendix D –** G*eotechnical Investigation, Proposed Brown-Strauss Steel Facility, 1210 & 1431 West Lincoln Street, APN 540-180-020, 022 & 026, Banning, California,* Sladden Engineering, January 5, 2023

**Appendix E –** *Phase I Environmental Site Assessment Report, Banning Industrial*, Terracon Consultants, Inc., September 1, 2022

**Appendix F** – Riverside Airport Land Use Commission Development Review Determination, October 5, 2023

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**Appendix H** – *Preliminary Hydrology Study and Drainage Analysis- Brown Strauss Steel*, Joseph E. Bonadiman & Associates, Inc., November 2023

**Appendix I** – *Brown Strauss Industrial Project, Noise Impact Analysis, City of Banning*, Ganddini Group, December 5, 2023

**Appendix J** – *Brown Strauss Industrial Project, Traffic Impact Analysis, City of Banning*, Ganddini Group, October 23, 2023

**Appendix K –** *Brown Strauss Industrial Project Vehicle Miles Traveled Screening Assessment*, Ganddini Group, April 23, 2023

**Appendix L –** Draft Mitigation Monitoring and Reporting Program

# ACRONYMNS

| Acronym | Definition |
|---|---|
| AB 32 | Assembly Bill 32 |
| AB 52 | Assembly Bill 52 |
| ADA | Americans with Disabilities Act |
| ADT | Average Daily Traffic |
| AFY | Acre Feet Per Year |
| AQMP | Air Quality Management Plan |
| APE | Area of Potential Effect |
| APN | Assessor Parcel Number |
| APZ | Accident Potential Zone |
| ALUC | Airport Land Use Commission |
| BMPs | Best Management Practices |
| CAAQS | California Ambient Air Quality Standards |
| CARB | California Air Resources Board |
| CDFW | California Department of Fish and Wildlife |
| CEQA | California Environmental Quality Act |
| City | City of Banning |
| CMP | Congestion Management Program |
| CNPS | California Native Plant Society |
| CNEL | Community Noise Equivalent Level |
| CO | Carbon Monoxide |
| CRBRWQCB | Colorado River Basin Regional Water Quality Control Board |
| CRHR | California Register of Historic Resources |
| dBA | A-Weighted Decibels |
| DIF | Development Impact Fees |
| DPM | Diesel Particulate Matter |
| EPA | Environmental Protection Agency |
| ERRP | Enhanced Recharge and Recovery Program |
| ESA | Endangered Species Act |
| FAR | Floor Area Ratio |
| FEMA | Federal Emergency Management Agency |
| FMMP | Farmland Mapping Management Program |
| GHG | Greenhouse Gas |
| GSP | Groundwater Sustainability Plan |
| gpd/acre | Gallons per Day per Acre |
| HAER | Historic American Engineering Record |
| HANS | Habitat Evaluation and Acquisition Negotiation Strategy |
| HCP | Habitat Conservation Plan |
| ITE | Institute of Transportation Engineers |
| LID | Low Impact Design |

| | |
|---|---|
| LOS | Level of Service |
| LST | Localized Significance Threshold |
| mgd | Millions of Gallons per Day |
| MLD | Most Likely Descendent |
| MMRP | Mitigation Monitoring and Reporting Program |
| MRZ | Mineral Resources Zone |
| MS4 | Municipal Separate Storm Water Sewer System |
| MSHCP | Western Riverside Multiple Species Habitat Conservation Plan |
| MTCO2e | Metric Tons Carbon Dioxide Equivalent |
| MWD | Metropolitan Water District |
| NAAQS | National Ambient Air Quality Standards |
| NAHC | Native American Heritage Commission |
| NCCP | Natural Communities Conservation Plan |
| ND | Negative Declaration |
| NO2 | Nitrogen Dioxide |
| NOx | Nitrogen Oxides |
| NPDES | National Pollutant Discharge Elimination System |
| PCE | Passenger Car-Equivalent |
| PM-2.5 | Particulate Matter Less Than 2.5 Microns in Diameter |
| PM-10 | Particulate Matter Less Than 10 Microns in Diameter |
| PRIMMP | Paleontological Resource Impact Mitigation Monitoring Program |
| RWQCB | Regional Water Quality Control Board |
| SGMA | Sustainability Groundwater Management Act |
| SF | Square Feet |
| SCAB | South Coast Air Basin |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SLF | Sacred Lands File |
| SRA | State Responsibility Area |
| SSC | Species of Special Concern |
| SWPPP | Stormwater Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| TIA | Traffic Impact Analysis |
| TRU | Transport Refrigeration Units |
| TUMF | Transportation Uniform Mitigation Fee |
| UWMP | Urban Water Management Plan |

# 1 INTRODUCTION

Brown Strauss, Inc. (Applicant) proposes to develop a steel distribution facility consisting of a 42,510 SF warehouse, a 3,434 SF administrative office, two 500 SF enclosed saw sheds, an outdoor storage yard, and associated parking and landscaping (Proposed Project). The Proposed Project would be constructed on three vacant parcels which will be consolidated into one parcel. The Proposed Project Site is situated on north side of W Lincoln Street, south of Redlands Freeway (I-10) and Union Pacific Railroad Corridor, west of South 8th street, East of South 22nd Street, and specifically within Assessor's Parcel Numbers (APNs 540-180-020, 540-180-022, and 540- 180-026) and is known as site address, 1219 and 1431 W. Lincoln Street.

The Proposed Project is subject to the approval of the following entitlements:

- Approval of General Plan Amendment No. 23-2502 and Zone Change No. 3502 (GPA 23-2502 and ZC 3502) to rezone 1431 W. Lincoln Street to Industrial for consistency with other lots within the Project Site;
- Approval of Design Review No. 23-7008 (DR 23-7008) to construct a 46,904 square feet steel distribution facility with an outdoor storage yard and associated parking and landscaping on 14.92 acres of land consisting of three parcels;
- Approval of Tentative Parcel Map No. 23-4002 (TPM 23-4002) to merge together three lots and provide right-of-way dedication along W. Lincoln Street;
- Approval of Parking Adjustment – Proposal for an alternative parking rate for a distribution facility.

The Proposed Project is a project under the California Environmental Quality Act (Public Resource Code § 21000 et seq.: "CEQA"). The primary purpose of CEQA is to inform the public and decision makers as to the potential impacts of a project and to allow an opportunity for public input to ensure informed decision-making. CEQA requires all state and local government agencies to consider the environmental effects of projects over which they have discretionary authority. CEQA also requires each public agency to mitigate or avoid any significant environmental impacts resulting from the implementation of projects subject to CEQA.

Pursuant to Section 15367 of the Guidelines for Implementation of the California Environmental Quality Act ("State CEQA Guidelines"), the City of Banning (City) is the lead agency for the Proposed Project. The lead agency is the public agency that has the principal responsibility for conducting or approving a project. The City, as the lead agency for the Proposed Project, is responsible for preparing environmental documentation in accordance with CEQA to determine if approval of the discretionary actions requested and subsequent development and operation of the Proposed Project would have a significant impact on the environment.

## 1.1 California Environmental Quality Act Compliance

In accordance with CEQA, this Initial Study has been prepared to analyze and determine any potential significant impacts upon the environment that would result from construction and implementation of the Proposed Project. In accordance with State CEQA Guidelines Section 15063, this Initial Study is a preliminary analysis prepared by the Lead Agency in consultation with other jurisdictional agencies, to determine whether a Negative Declaration, Mitigated Negative Declaration, or an Environmental Impact Report is required for the Proposed Project. The purpose of this Initial Study is to inform the decision-makers, affected agencies, and the public of potential environmental impacts associated with the implementation of the Proposed Project.

A Lead Agency may prepare a Mitigated Negative Declaration for a project that is subject to CEQA when an Initial Study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed Negative Declaration and Initial Study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment (Public Resources Code Section 21064.5).

This Initial Study has been prepared for the Proposed Project, in conformance with Section 15070(b) of the State CEQA Guidelines. The purpose of the Initial Study is to identify potentially significant impacts associated with the construction and operation of the Proposed Project and incorporate mitigation measures into the Proposed Project as necessary to eliminate the potentially significant effects of the Proposed Project or to reduce the effects to a less than significant level.

## 1.2 Content and Format of the Initial Study

This Initial Study is based on an Environmental Checklist Form (Form), as suggested in Section 15063(d)(3) of the State CEQA Guidelines, as amended, and includes a series of questions about the project for each of the listed environmental topics. The Form evaluates whether or not there would be significant environmental effects associated with the development of the project and provides mitigation measures, when required, to reduce impacts to a less than significant level.

The Initial Study is organized as follows:

- **Section 1 – Introduction.** This section introduces the scope of the Proposed Project and the City's role in the project, as well as a brief summary of findings.
- **Section 2 – Project Summary and Environmental Determination.** This section summarizes the Proposed Project and actions to be undertaken by the City. This section also provides the determination of the environmental document to be approved by the City.

- **Section 3 – Project Description.** This section details the Proposed Project components and general environmental setting.
- **Section 4 – Environmental Impacts**. This section contains the Environmental Checklist Form (Form), as suggested in Section 15063(d)(3) of the State CEQA Guidelines, as amended, and includes a series of questions about the project for each of the listed environmental topics. The Form is based on the current State CEQA Guidelines Appendix G Environmental Checklist Form and it evaluates whether or not there would be significant environmental effects associated with the development of the project and provides mitigation measures, when required, to reduce impacts to a less than significant level. The form requires an analysis in 20 subject categories as well as Mandatory Findings of Significance.
- **Section 5 – List of Preparers.** This section summarizes the professionals who contributed to the preparation of this report and its technical appendices.
- **Section 6 – References.** This section identifies the references used in the preparation of this Initial Study.

## 1.3 Initial Study Summary of Findings

Based on the analysis in Section 4, there were no environmental factors that could potentially affect ("Potentially Significant") the environment. Mitigation measures were identified to reduce some impacts to Less Than Significant. Therefore, the determination, based on the Initial Study, is that a **Mitigated Negative Declaration** would be prepared.

## 1.4 Documents Incorporated by Reference

The following reports and/or studies are applicable to development of the Project Site and are hereby incorporated by reference:

- *City of Banning General Plan,* City of Banning, adopted on January 31, 2006 (GP). (Available at http://www.banning.ca.us/DocumentCenter/View/660/GP-Table-of-Contents?bidId=)
- *Final Environmental Impact Report, SCH No. 2005011039, for the City of Banning Comprehensive General Plan and Zoning Ordinance,* City of Banning, certified January 31, 2006 (GP EIR). (Available at http://www.banning.ca.us/DocumentCenter/View/778/GP-FEIR?bidId=)
- *General Plan Circulation Element Amendment*, City of Banning, adopted March 26, 2013. (Available at http://www.banning.ca.us/DocumentCenter/View/4418/Circulation-Element-Amendment---Resolution-No-2013-34?bidId=)
- *Final Environmental Impact Report, SCH No. 2012011008, City of Banning Circulation Element General Plan Amendment*, City of Banning, certified March 26, 2013. (Available at Part I http://www.banning.ca.us/DocumentCenter/View/1118/3-Draft-EIR?bidId= and Part II http://www.banning.ca.us/DocumentCenter/View/2260/Response-to-Comments?bidId=)

## 1.5 Contact Person

Any questions about the preparation of the Initial Study, its assumptions, or its conclusions should be referred to the following:

Attn: Emery Papp, Senior Planner
City of Banning
Community Development Services - Planning Division
99 E. Ramsey Street
Banning, CA 92220
Phone: 951.922.3152
Email: epapp@banningca.gov

# 2 PROJECT SUMMARY AND ENVIRONMENTAL DETERMINATION

## 2.1 Project Summary

**1. Project Title:** Brown Strauss Industrial Project - DR No. 23-7008

**2. Lead Agency Name:** City of Banning

**Address** Community Development Department - Planning Division
99 E. Ramsey Street
Banning, CA 92220

**3. Contact Person:** Emery Papp, Senior Planner
epapp@banningca.gov
951.922.3152

**4. Project Location:** North side of W. Lincoln Street,
South of the I-10 Freeway
East of S. 16th Street, West of S. 8th Street
Site Acres: 14.92 gross acres/14.27 net acres
Site Addresses: 1219 W. Lincoln Street and 1431 W. Lincoln Street
Topographic Quad (USGS 7.5"): *Beaumont*
Topographic Quad Coordinates: T3 South, R1 East, Section 9
Latitude: 33.9224°N, Longitude: 116.8909°W
APNs: 540-180-020, 540-180-022, 540-180-026

**5. Project Sponsor's Name:** Brown Strauss, Inc.

**Address** 2495 Uravan Street
Aurora, CO 80011

**6. General Plan Designation:** General Commercial and Industrial

**7. Zoning Designation:** General Commercial and Industrial

**8. Description of Project:**

Development of three parcels located at 1219 and 1431 W. Lincoln Street (APNs 540-180-020, 540-180-022, and 540- 180-026) with a steel distribution facility. The Proposed Project consists of a 42,510 SF warehouse, a 3,434 SF administrative office, two 500 SF enclosed saw sheds, outdoor storage yard, and associated parking, landscaping, and

road improvements. The warehouse will be utilized to store structural tube, structural channel, and structural angle. The outdoor storage yard would be utilized to store wide flange beam and structural tube. Products inside the warehouse are moved via overhead cranes and products in the outdoor storage yard are moved using forklifts. Access to the site via a rail spur from the adjacent Union Pacific Railroad line is also incorporated into the site plan and analyzed in the MND.

**9. Surrounding Land Uses:**

Surrounding land uses are identified in **Table 1** - **Surrounding Land Use**. The Project Site is currently vacant.

**Table 1 - Surrounding Land Use**

| Direction | Land Use Description |
|---|---|
| North | I-10 Freeway and Union Pacific Railroad |
| East | Multi-tenant industrial warehouses and offices |
| South | W. Lincoln Avenue, industrial uses, and nonconforming residential uses |
| West | Vacant land and Industrial warehouse |

**10. Other Public Agencies Whose Approval is Required:**

The following discretionary approvals are required for the Proposed Project:

*Federal Agencies:*

- There are no federal agencies in which discretionary approvals are required.

*State Agencies:*

- California Public Utilities Commission:
  - Approval of rail spur connection to adjacent Union Pacific Railroad line.

*Local Agencies:*

- City of Banning:
  - Adopt CEQA compliance documents;
  - Approval of General Plan Amendment No. 23-2502 and Zone Change No. 3502 (GPA 23-2502 and ZC 3502) to rezone 1431 W. Lincoln Street to Industrial for consistency with other lots within the Project Site
  - Approval of Design Review No. 23-7008 (DR 23-7008) to construct a 46,904 square feet steel distribution facility with an outdoor storage yard and associated parking and landscaping on 14.92 acres of land consisting of three parcels
  - Approval of Tentative Parcel Map No. 23-4002 (TPM 23-4002) to merge three lots and provide right-of-way dedication along W. Lincoln Street

- Approval of Parking Adjustment – Proposal for an alternative parking rate for a distribution facility
- Approvals from Banning Electric Utility, Water, and Wastewater divisions for provision of city owned utilities and hookups.

- Colorado River Basin Regional Water Quality Control Board:
  - Approval of a National Pollutant Discharge Elimination System (NPDES) permit to ensure that construction site drainage velocities are equal to or less than the pre-construction conditions and downstream water quality is not worsened.

**11. California Native American Consultation:**

On August 3, 2023 the City of Banning notified tribal entity representatives of the Proposed Project and the 30-day timeframe in which to request consultation in accordance with AB52 and SB18. Of the tribes contacted, the following responses were received:

- Luz Salazar, Cultural Resources Analyst, Agua Caliente Band of Cahuilla Indians. Consultation is ongoing.
- Bernadette Ann Brierty, Tribal Historic Preservation Officer, Morongo Band of Mission Indians. Consultation is ongoing.

## 2.2 Organization of Environmental Analysis

This Initial Study is based on an Environmental Checklist Form (Checklist), as suggested in Section 15063(d)(3) of the State CEQA Guidelines, as amended, and includes a series of questions about the project for each of the listed environmental topics. The Checklist evaluates whether or not there would be significant environmental effects associated with the development of the project and provides mitigation measures, when required, to reduce impacts to a less than significant level.

Section 4 provides a discussion of the potential environmental impacts of the Proposed Project. The evaluation of environmental impacts follows the questions provided in the Checklist provided Appendix G to the State CEQA Guidelines.

## 2.3 Evaluation of Environmental Impacts

A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to the project (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

All answers must take account of the whole action involved, including off site as well as on site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

Once the Lead Agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant.

"Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

"Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." Mitigation measures are identified and explain how they reduce the effect to a less than significant level (mitigation measures may be cross-referenced).

Earlier analyses may be used where, pursuant to the Program EIR or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. (Section 15063[c][3][D]. In this case, a brief discussion should identify the following:

a) Earlier analyses were used where they are available for review.

b) Which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and whether such effects were addressed by mitigation measures based on the earlier analysis.

c) The mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project for effects that are "Less than Significant with Mitigation Measures Incorporated".

References and citations have been incorporated into the checklist references to identify information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document, where appropriate, include a reference to the page or pages where the statement is substantiated.

Source listings and other sources used, or individuals contacted are cited in the discussion.

The explanation of each issue should identify:

a) The significance criteria or threshold, if any, used to evaluate each question.

b) The mitigation measure identified, if any, to reduce the impact to less than significant.

## 2.4 Environmental Factors Potentially Affected

Based on the analysis in Section 4, the Proposed Project could potentially affect ("Potentially Significant") the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor and identifies where mitigation measures would be necessary to reduce all impacts to less than significant levels.

| | | |
|---|---|---|
| ☐ Aesthetics | ☐ Agriculture and Forestry Resources | ☐ Air Quality |
| ☐ Biological Resources | ☐ Cultural Resources | ☐ Energy |
| ☐ Geology and Soils | ☐ Greenhouse Gas Emissions | ☐ Hazards and Hazardous Materials |
| ☐ Hydrology and Water Quality | ☐ Land Use and Planning | ☐ Mineral Resources |
| ☐ Noise | ☐ Population and Housing | ☐ Public Services |
| ☐ Recreation | ☐ Transportation | ☐ Tribal Cultural Resources |
| ☐ Utilities and Service Systems | ☐ Wildfire | ☐ Mandatory Findings of Significance |

## 2.5 Determination

On the basis of this initial evaluation, the following finding is made:

| | |
|---|---|
| | The proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. |
| **X** | Although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared. |
| | The proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. |
| | The proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. |
| | Although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required. |

Signature Date

Name Title

# 3 PROJECT DESCRIPTION

## 3.1 Background

Based on review of the historical information, the Project Site consisted of undeveloped land from as early as 1901, followed by agricultural land activities from at least 1938 until sometime between 1953 and 1961. By 1961, the central and eastern portions of the site appeared graded, and another homestead/dwelling and apparent trailers/containers were visible. By 1989, the homestead/dwelling on the eastern portion of the site appeared to have been removed, followed by the apparent removal of the remaining homestead/dwelling on the western portion of the site, by 1990. Based on the 2002 aerial photograph, apparent containers/trailers were visible throughout the site. By 2006, the containers/trailers appeared to have been removed. Based on the 2012 aerial photograph, an apparent water tank and small animal enclosure were visible on the southwestern portion of the site. In addition, an apparent container/trailer was visible in the 2016 aerial photograph. Both structures have since been removed.

The Proposed Project is designed to accommodate relocation of the existing Brown Strauss Steel distribution facility in the City of Fontana. The existing facility, located at 14970 Jurupa Avenue, operates on a 23-acre site with no warehouse and a small storage shed only. Though the Project Site is smaller than the Fontana site, Brown Strauss anticipates that the more efficient layout of the Banning facility, including the warehouse, will allow for staffing levels to remain the same or be reduced after the relocation is complete.

*Project Site Setting*

The Proposed Project would be constructed on three vacant parcels (APNs 540-180-020, 540-180-022, and 540- 180-026) which will be consolidated into one parcel. Parcel No. 540-180-022 is currently zoned General Commercial (GC) and will be rezoned to Industrial (I) for consistency with other lots within the Project Site. The Industrial zone allows for a variety of uses such as manufacturing, research and development, warehouse and distribution, and accessory retail uses. The Project Site is located on the north side of W. Lincoln Street between S. 8th Street and S. 16th Street (**Figure** 1 – *Regional Vicinity* and **Figure 2** – *Site Location – Aerial View*). The Project Site is approximately 14.92 gross acres and is currently unimproved land located within an area developed with industrial and non-conforming rural residential land uses. It is bounded by the Union Pacific railroad track to the north, industrial warehouses to the east, a mix of currently vacant and non-conforming rural residential parcels to the south across W Lincoln Street, and a vacant land to the west.

The Project Site is within the Beaumont United States Geological Survey (USGS) 7.5- Minute Topographic Quadrangle Map (USGS 1984) - Section 9, of Township 3 South and Range 1 East.

Major roadways in the surrounding area include the I-10 (Redlands Freeway) to the north and SR 243 to the east. Per forthcoming updates to the City of Banning General Plan Circulation Element, W. Lincoln Street is an approved truck route, with access to I-10 to be taken from S. 8$^{th}$ Street to the east and S. 22$^{nd}$ Street to the west.

*Site Zoning*

The Project Site is split between General Commercial (GC) (APN 540-180-022) and Industrial (I) (APN 540- 180-020 and -026) zoning and General Plan designations (**Figure 3 –** *Existing General Plan Designation/Zoning Map*). Parcel No. 540-180-022 is currently zoned General Commercial (GC) and will be rezoned to Industrial (I) for consistency with other lots within the Project Site (**Figure 4 –** *Proposed General Plan Designation/Zoning Map*). The Industrial zone allows for a variety of uses such as manufacturing, research and development, warehouse and distribution, and accessory retail uses. The (I) zone correlates with the "Industrial" General Plan Land Use designation. (City of Banning, January 31, 2006).

## 3.2 Project Characteristics

The Proposed Project includes the following:

Site Plan: The Proposed Project would involve the construction of a steel distribution facility consisting of a 42,510 SF warehouse, a 3,434 SF administrative office, two 500 SF enclosed saw sheds, outdoor storage yard, and associated parking and landscaping with an approximately 1.5-acre street dedication (**Figure 5** – *Site Plan*). The Proposed Project would be constructed on three vacant parcels totaling approximately 14.92 acres which will be consolidated into one parcel. The proposed building is located on the southwest side of the site and the rest of the site would be utilized as outdoor storage. The warehouse and employee parking lot would be utilized to store structural tube, structural channel and structural angle. The outdoor storage yard would be utilized to store wide flange beam and structural tube. Products inside the warehouse are moved via overhead cranes and products in the outdoor storage yard are moved using forklifts. A rail spur connection to the adjacent Union Pacific Corridor is proposed on the north of the site for the deliveries and a loading/unloading area is proposed to be located on the north of the warehouse. Vehicular access to the Project Site would be provided via four driveway access points off of W. Lincoln Street consisting of two one-way gated driveways at opposite ends of the Project Site for truck and fire safety access, with circulation from west to east only, a one-way driveway directly into and through the warehouse from north to south only; and a two-way dedicated driveway into the employee parking lot for passenger vehicles only.

The lot coverage would be 7.6 percent where a maximum of 60 percent is allowed. The Project Site Plan is designed with building setbacks as required by City code. The building would be a maximum height of 36'-4". The Proposed Project provides 64,504 square feet of landscaping where none is required.

Off-Site Improvements: Off-site improvements would occur on the northern and southern Project Site boundaries. Street improvements include curb, gutter and pavement along W. Lincoln Street. Improvements along W. Lincoln Street would include an approximately 1.5-acre street dedication and the construction of a 7-foot-wide parkway, a 5-foot-wide sidewalk, and relocation of existing utility transmission lines to accommodate widening of the street consistent with the City's Street Improvement Plan. Four driveways would be provided along

W. Lincoln Street for vehicular access including two one-way driveways at opposite ends of the Project Site for truck and fire safety access, a one-way driveway, and a two-way driveway for access to employee parking lot. Off-site improvements on the northern Project Boundary includes the construction of a rail spur to the property off of the adjacent UP rail line to allow for inbound deliveries via rail.

Parking: The Project Site contains a total of 34 parking spaces, which include two handicapped accessible spaces and two clean air vehicle spaces. Though distribution is a permitted use in the Industrial zone (Banning Municipal Code, Table 17.12.020) there is no corresponding parking rate in the municipal code. Based on the most similar uses in the Banning Municipal Code parking table 17.28.040B, 53 parking spaces are required. However, the applicant proposes an alternative parking rate for the distribution facility based on the specific operational characteristics of the proposed facility. The new parking ratio is proposed based on the maximum number of staff on site at any given time, two shift scheduling, and no retail sales on-site. Based on the analysis provided in the parking adjustment justification the applicant proposes the parking requirements to be reduced from 53 to 34 parking spaces to match the anticipated staffing needs of the proposed steel distribution facility.

Landscaping and Hardscape: Landscaping is designed around the north, south and west side of the property as well as along the driveways. The facility will provide approximately 64,504 SF of landscaped area (approximately 10.4 percent of the net lot area), where none is required (**Figure 6** – *Landscape Plan*). W. Lincoln Street frontage will be lined with a mix of African Sumac and Swan Hill Olive trees. Drought tolerant low shrubs are planned along W. Lincoln Street and driveways. Along the west and north property boundary, Acacia Redolens ground cover is provided. The westerly driveway is lined with *Acacia stenophylia*. No landscaping is planned for the east property boundary.

Architecture: The warehouse and office building will be constructed utilizing an insulated metal panel system, which provides for an enhanced "granitstone" finish on street facing elevations that appears similar to traditional tilt-up concrete construction. (**Figure 7** – *Building Elevations and* **Figure 8** – *Floor Plan*). The color scheme of the building is a variety of neutral earth tones with shades of blue which are consistent with the surrounding area and are reflective of the Brown Strauss company branded color scheme. Natural lighting will be provided using traditional windows in the office space and clear polycarbonate insulated panels on the warehouse. The Proposed Project design complies with the requirements of the Commercial and Industrial Development Design Guidelines in the Banning Municipal Code.

Site Lighting: Site lighting will consist of 20- to 35-foot tall light standards that will be pointed downward at the storage yard and along the edges of the building. Additional building mounted light fixtures will be used near building entrances. Refer to **Figure 9** – *Photometric Plan* for lighting details.

Stormwater Management: The Water Quality Management Plan (**Appendix F** – *Preliminary Project Specific Water Quality Management Plan*, Joseph E. Bonadiman & Associates, Inc, March 8, 2023, Revised October 2023) identifies stormwater management for post construction

building operations. The existing on-site project area is generally flat, sloping to the southeast. The site is generally covered with native grass and weeds. The site sheet flows to the southeast discharging along W. Lincoln Street, where flow continues to the east. To the north of the Project Site is the Union Pacific railroad, consisting of a limited drainage tributary with elevated tracks on earthen berms, running east/west. Flows originating along the south of the Union Pacific railroad berms are carried to the east via existing earthen swales within the railroad right-of-way. Therefore, there are no significant offsite flows impacting the site.

The proposed project will provide a retention/detention system sized to retain 2.2472 acre feet (af) of storm water while detaining an additional 0.7168 af of storm water. This will provide retention of the calculated developed conditions 100-year, 3-hour volume per City of Banning requirements and will provide adequate volume to mitigate developed flow rates to less than the existing condition flows rates, up to and including the 100-year, 24-hour event, with the exception of the 5-year, 24-hour storm. It should be noted that mitigation of the 5-year, 24-hour storm is not feasible due to the extremely low flow rate of the exiting condition.

Construction of the Proposed Project will also require the developer to prepare a Stormwater Pollution Prevention Plan (SWPPP) as the Project Site is more than 1 acre in size.

Utilities and Services: Water and sewer services would be served by the City of Banning Public Works - Utilities Department and Wastewater Division, electrical service is readily available in the vicinity through Banning Electric Utility (BEU), and natural gas is available through Southern California Gas Company.

### 3.2.1 Construction Timing

Construction is anticipated to occur in one phase, beginning in the second half of 2024, lasting approximately twelve months, with operations anticipated to begin in the second quarter of 2025. Initial site improvements include grading and underground infrastructure followed by building construction, paving, and landscape activities. The grading quantities are anticipated to balance on site and little to no import or export of fill material is anticipated. Project construction will require the use of heavy equipment such as dozers, scrapers, paving machines, concrete trucks, and water trucks.

Construction activities include the following:

Site Grading and Underground Utility Construction: Grading is expected to last approximately one month. Site activities include placement of underground water, sewer and other utilities underground throughout the Project Site, and off-site, to service the structures. Typical equipment includes excavators and trenchers. The Project Site is relatively level with minimal surface gradients, and soil balancing is anticipated. Grading will be limited to cuts and fills in order to accomplish the desired site elevations. This does not include the removal and re-compaction of foundation bearing soil within the building envelope. However, due to the presence of compressible surface and near surface soil identified during geotechnical

exploration, some overexcavation and re-compaction are recommended, however, on-site soils are anticipated to be utilized for the Project.

Building Construction and Architectural Coating: Construction of the one 42,510 SF warehouse and associated offices and sheds is expected to occur over six months. The construction method is a metal panel building system. Typical equipment includes welders, delivery trucks, and cranes for lifting. Should a crane be utilized, the Property Owner/Developer and its construction contractor would comply with all local, State, and federal regulations, including but not limited to the FAA Section 77.13 for construction/alteration near airports. The type of equipment will be evaluated, and all permits obtained as necessary prior to construction. All portions of the building will be complete including installation of rollup doors and painting.

Final Site Paving and Landscaping: This activity is anticipated to occur over one month. All parking areas will be paved, and landscaping placed per the design. All architectural and parking lot lighting will also be installed.

Rail Spur: The site plan has been designed to accommodate a rail spur connection to the adjacent Union Pacific Railroad corridor. Discussions between the Applicant, Union Pacific, and the California Public Utilities Commission are ongoing, and may result in the rail spur being constructed as a later phase of development due to the permitting timeline for this improvement. As such, the site plan is designed so as to allow the Project Site to fully accommodate the Proposed Project operations without the rail spur if needed.

### 3.2.2 Best Management Practices During Construction

The following best management practices would be incorporated into the Proposed Project's construction specifications to identity how the Proposed Project would conform to Federal, State, and Local regulations:

- Construction Water Quality Control: Construction projects that disturb 1 acre of land or more are required to obtain coverage under the NPDES General Permit for Construction Activities (General Construction Permit), which requires the applicant to file a notice of intent (NOI) to discharge stormwater and to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP includes an overview of the Best Management Practices (BMPs) that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. The Project Site is more than 1 acre therefore, the developer is required to provide an SWPPP. The SWPPP will also address post-construction measures for water quality protection.
- Water Quality Management Plan: The project will be required to retain Urban Runoff onsite in conformance with local ordinance (See Table 6 of Appendix F, "Local Land use Authorities Requiring Onsite Retention of Stormwater").

## 3.3 Project Operations

Brown Strauss, Inc. (dba Brown Strauss Steel) is a leading structural steel service provider, with ten locations in the Western US. Brown Strauss has 260 employees and is 100% employee owned through an ESOP (Employee Stock Ownership Plan). The Proposed Project is designed to accommodate relocation of the existing Brown Strauss Steel distribution facility in the City of Fontana. The existing facility, located at 14970 Jurupa Avenue, operates on a 23-acre site with no warehouse and a small storage shed only. Though the Project Site is smaller than the Fontana site, Brown Strauss anticipates that the more efficient layout of the Banning facility, including the warehouse, will allow for staffing levels to remain the same or be reduced after the relocation is complete. The primary products stocked and sold by Brown Strauss are wide flange beam and structural tube, that together account for over 90% of sales.

The Applicant proposes to develop a steel distribution facility consisting of a 42,510 SF warehouse, a 3,434 SF administrative office, two 500 SF enclosed saw sheds, and an outdoor storage yard. Brown Strauss is primarily a distributor, buying structural steel products in bulk quantities from the steel mills and selling the same products in smaller quantities to steel fabricators. The Applicant receives structural steel products via flatbed trucks and rail. The Applicant is currently in discussions with Union Pacific (UP) to add a rail spur to the property off of the adjacent UP rail line to allow for inbound deliveries via rail. The proposed operation does not include a steel mill or foundry. The only manufacturing activity to be performed on-site is to cut products to length within the enclosed saw sheds on the north side of the building. Less than 10% of customer orders are cut to length.

The warehouse would be utilized to store structural tube, structural channel and structural angle. The outdoor storage yard would be utilized to store wide flange beam and structural tube. Products inside the warehouse are moved via overhead cranes and products in the outdoor storage yard are moved using forklifts. Outbound shipments to customers are typically via flatbed trucks, either company owned or common carriers. No truck bays are utilized by Brown Strauss and the trucks would be loaded/unloaded either to the north of the warehouse or inside of the warehouse. No direct sales are made to the public, therefore no retail customers will be on site.

The facility will have approximately 34 employees split between two shifts daily. Anticipated operating hours are from 5:00 am to 11:30 pm. Based on the two-shift schedule, there are never more than 21 employees on-site at any given time during the course of the workday, inclusive of office staff and site crew. Site crew work within the warehouse and outdoor storage yard. Office staff includes three management staff who manage on-site operations and the processing of paperwork for product deliveries. The same shift schedule is utilized at all Brown Strauss Steel facilities, and these particular staffing levels will be maintained after the relocation to City of Banning. Based on the specific operational characteristics of Brown Strauss, adjusted parking ratio, 34 parking spaces are provided in the proposed parking lot.

## 3.4 Project Approvals

The following approvals and permits are required from the City of Banning to implement the Proposed Project:

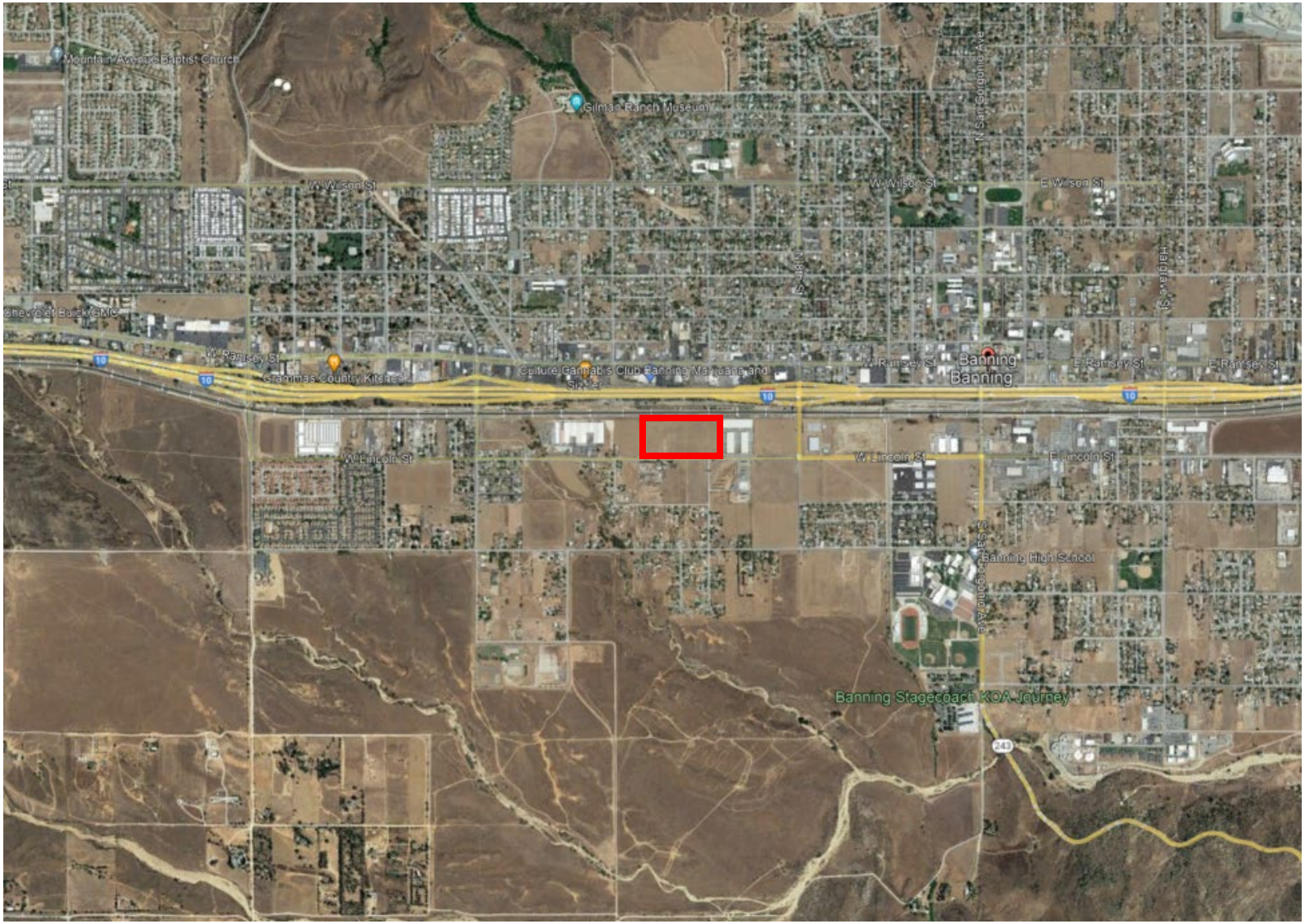
- Adopt Mitigated Negative Declaration (MND) with the determination that the MND has been prepared in compliance with the requirements of CEQA;
- Approval of General Plan Amendment No. 23-2502 and Zone Change No. 3502 (GPA 23-2502 and ZC 3502) to rezone 1431 W. Lincoln Street to Industrial for consistency with other lots within the Project Site
- Approval of Design Review No. 23-7008 (DR 23-7008) to construct a 46,904 square feet steel distribution facility with an outdoor storage yard and associated parking and landscaping on 14.92 acres of land consisting of three parcels
- Approval of Tentative Parcel Map No. 23-4002 (TPM 23-4002) to merge together three lots and provide right-of-way dedication along W. Lincoln Street
- Approval of Parking Adjustment – Proposal for an alternative parking rate for a distribution facility

Other non-discretionary actions anticipated to be taken by the City at the staff level as part of the Proposed Project include:

- Review and approval of all off-site infrastructure plans, including street and utility improvements pursuant to the conditions of approval;
- Review all on-site plans, including grading and on-site utilities; and
- Approval of a Preliminary Water Quality Management Plan (PWQMP) to mitigate post-construction runoff flows.

Approvals and permits that may be required by other agencies include:

- A National Pollutant Discharge Elimination System (NPDES) permit from the Colorado River Basin Regional Water Quality Control Board (RWQCB) to ensure that construction site drainage velocities are equal to or less than the pre-construction conditions and downstream water quality is not worsened.
- Approval of water and sewer improvement plans by the City of Banning Public Works-Utilities Department.
- Approval of the rail spur by the California Public Utilities Commission.




N

Project Location (Not to Scale)

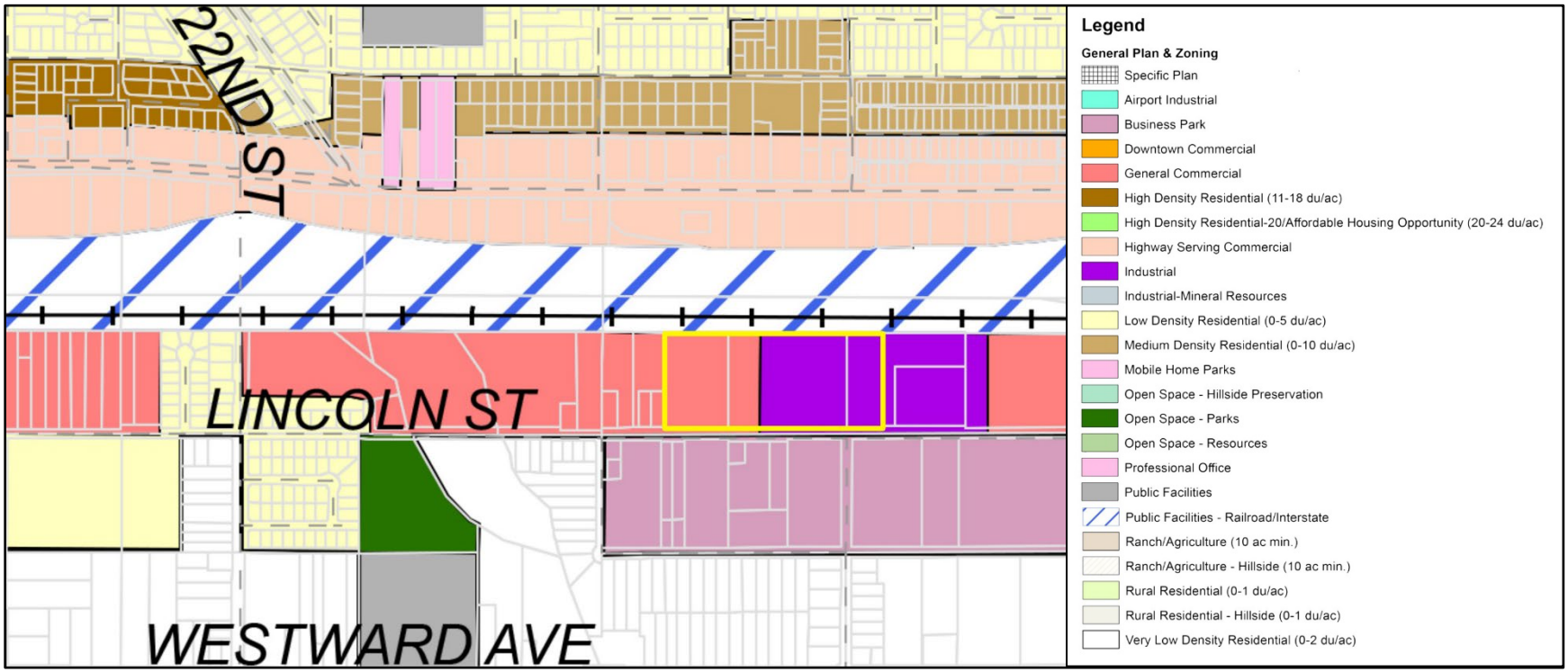
Figure 1: Regional Vicinity Map

Source: *Google Maps*




Figure 2: Site Location – Aerial View

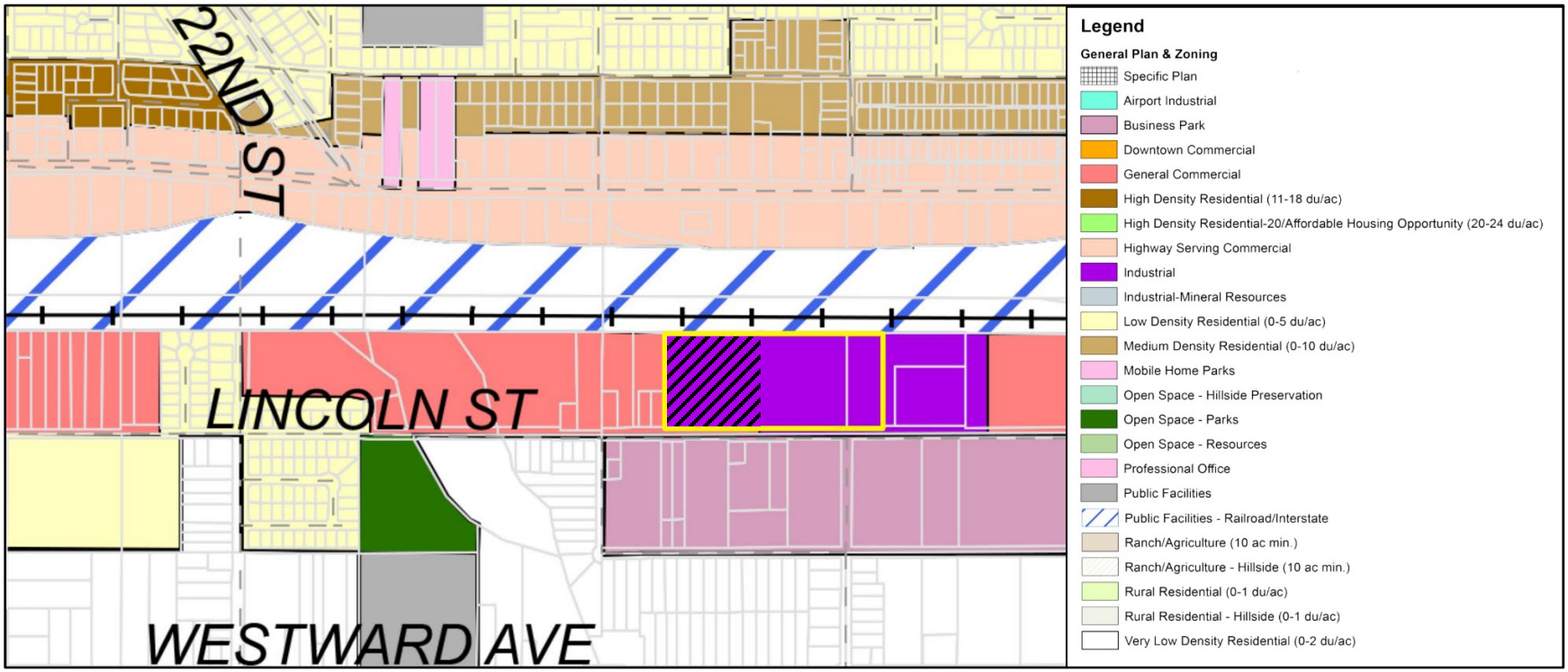
Source: *Google Earth*




Not to Scale

Figure 3: Existing General Plan Designation/Zoning

Source: *City of Banning/Sagecrest*




PROJECT SITE

Area of Proposed Zone Change to Industrial

Not to Scale

Figure 4: Proposed General Plan Designation/Zoning

Source: *City of Banning/Sagecrest*

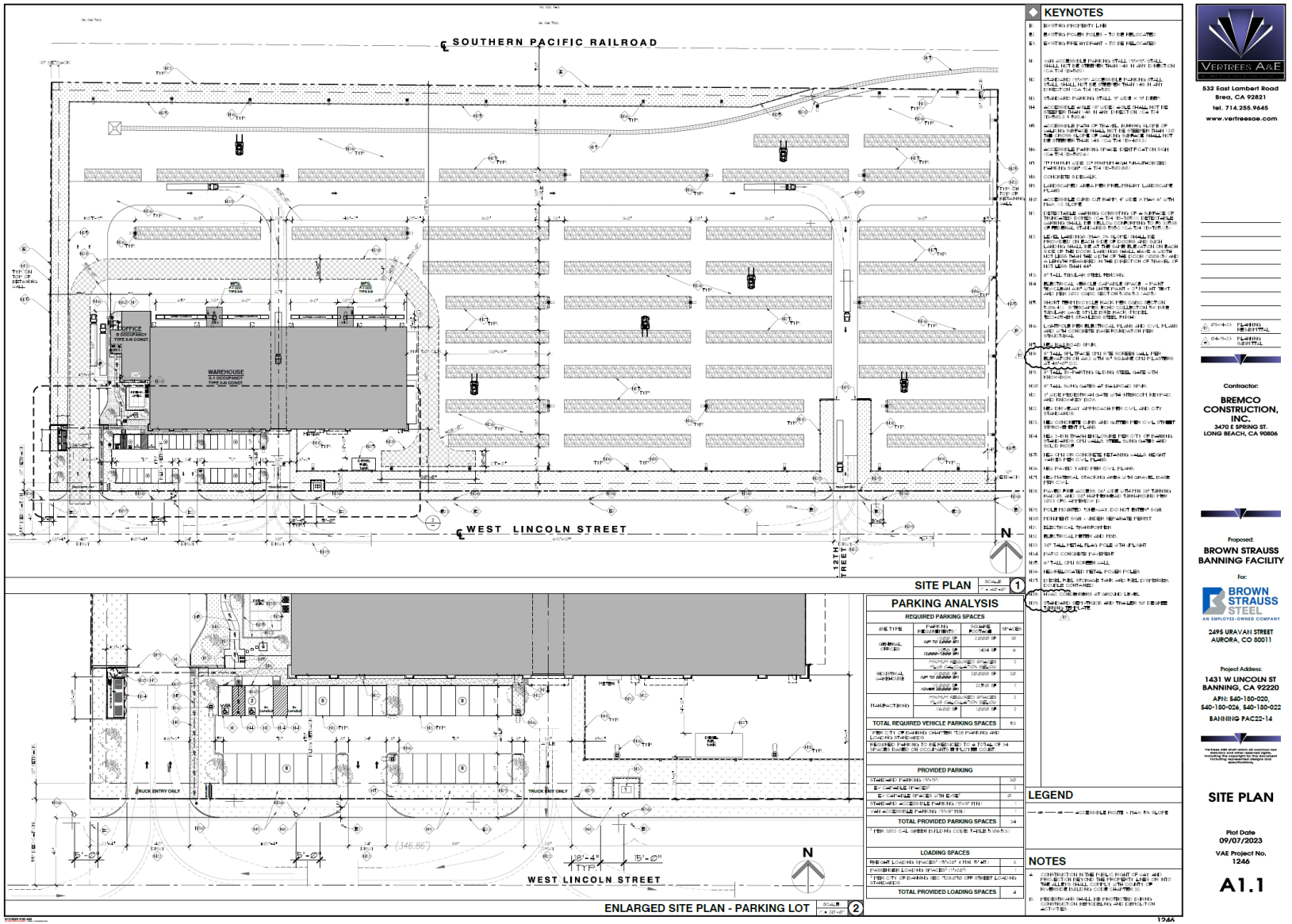



Figure 5: Site Plan
Source: Vertrees A&E

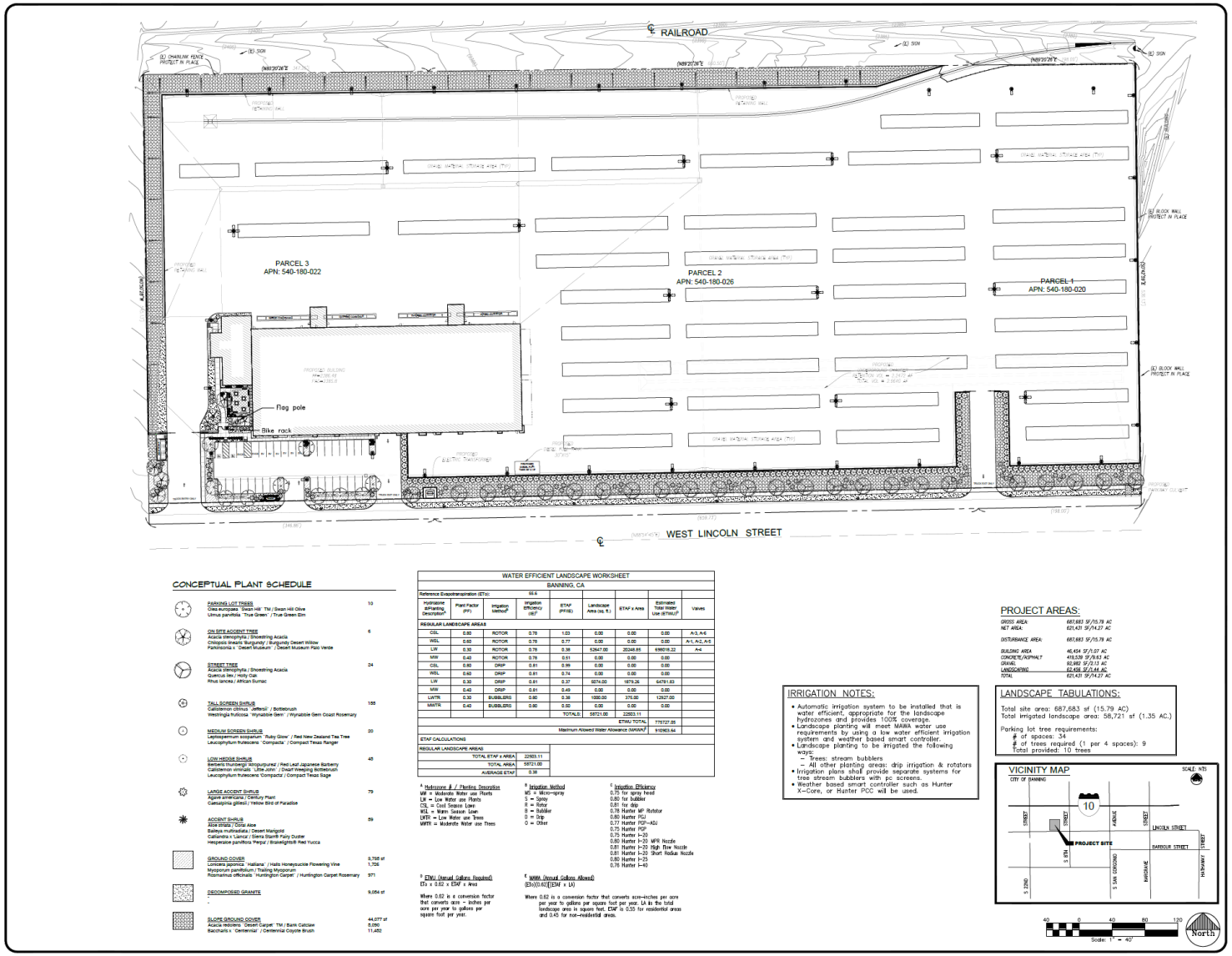



Figure 5: Landscape Plan

Source: Royal Oak Design

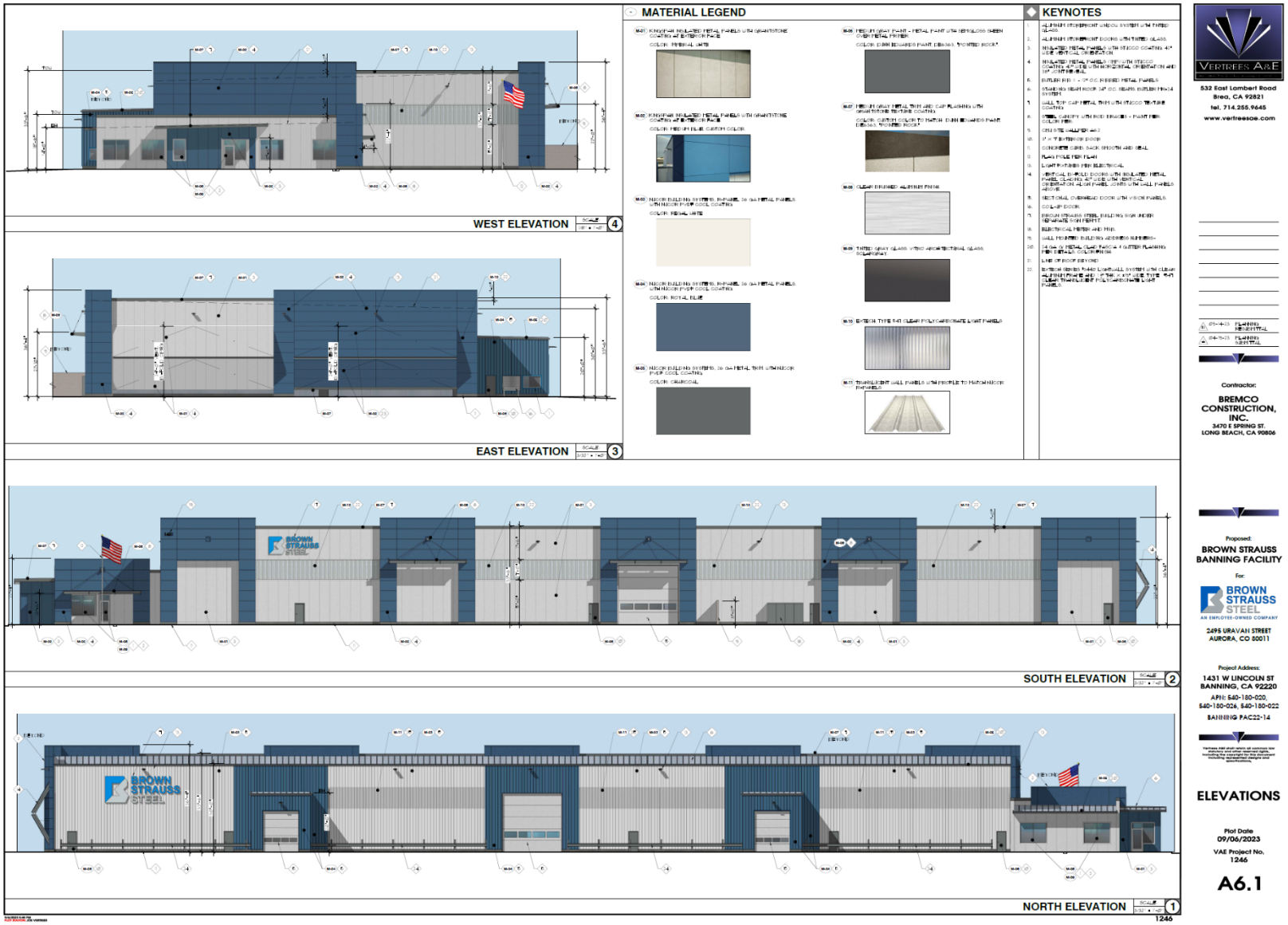
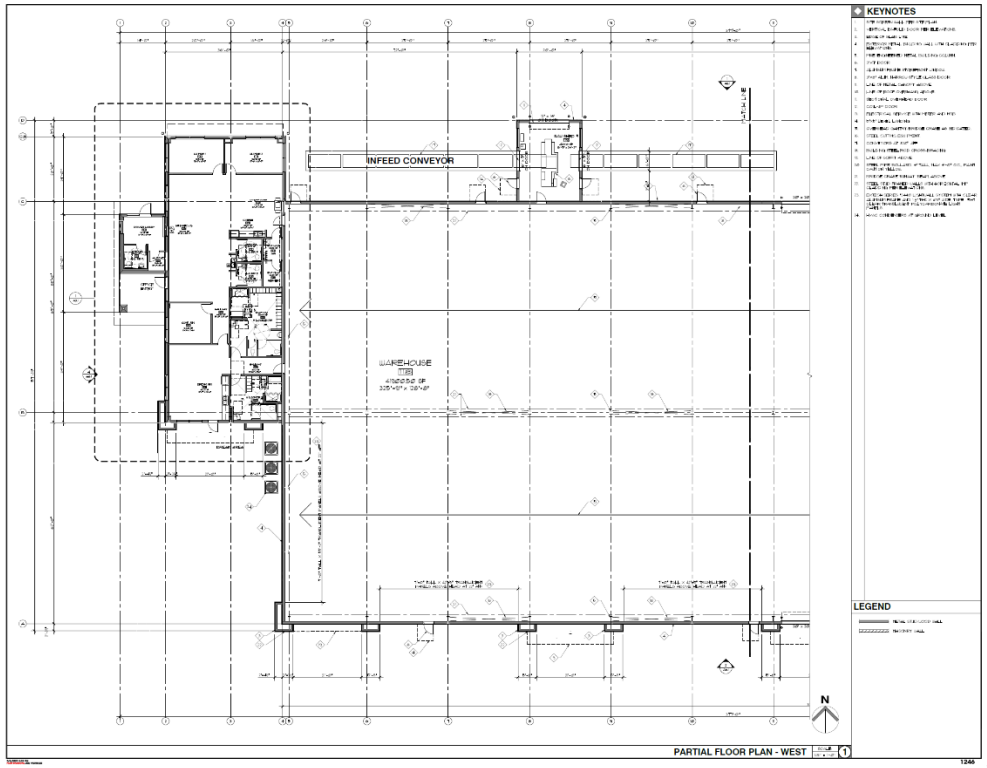



Figure 7: Building Elevations
Source: Vertrees A&E



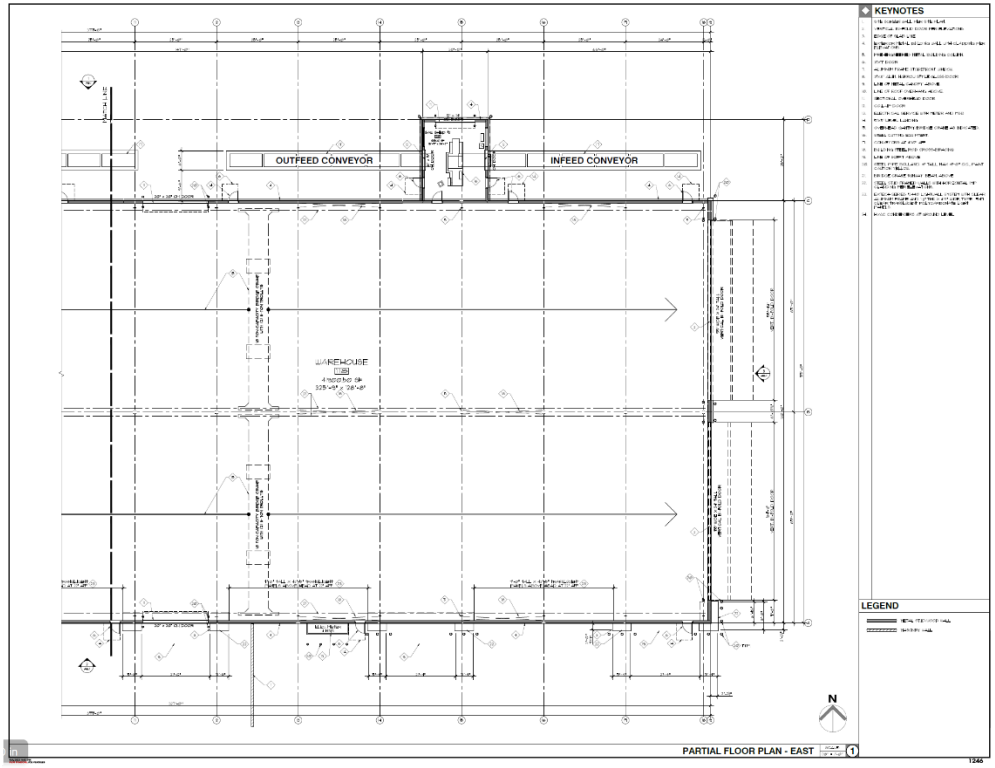




Figure 8: Floor Plan
Source: *Vertrees A&E*

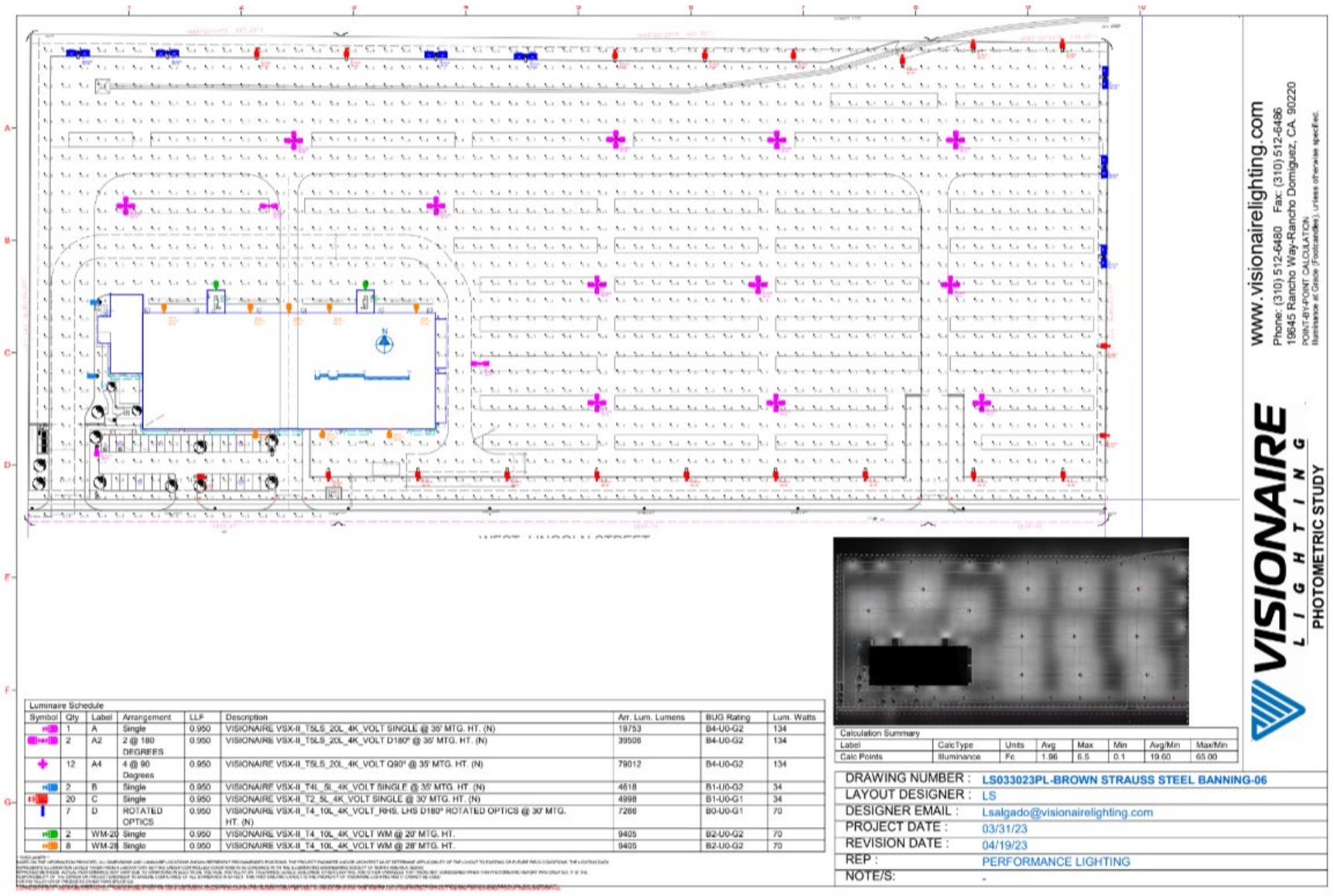



Figure 9: Photometric Plan
Source: *Visionaire Lighting Photometric Study*

# 4 ENVIRONMENTAL IMPACTS

## 4.1 Aesthetics

### *Environmental Setting*

The Project Site is located on the north side of W. Lincoln Street between S. 8th Street and S. 16th Street, within a generally rural, residential, and commercial area of Riverside County. The Project Site is approximately 14.92 gross acres and is currently unimproved land located within an area developed with industrial and non-conforming rural residential land uses. The Project Site is currently split between General Commercial (GC) (APN 540-180-022) and Industrial (I) (APN 540-180-020 and -026) zoning and General Plan designations. Parcel No. 540-180-022 will be rezoned to Industrial (I) for consistency with other lots within the Project Site. The Industrial zone allows for a variety of uses such as manufacturing, research and development, warehouse and distribution, and accessory retail uses. Surrounding uses consist of Union Pacific railroad track to the north, industrial warehouses to the east, a mix of currently vacant and non-conforming rural residential parcels to the south across W. Lincoln Street, and vacant land to the west.

### *Regulatory Framework*

California Scenic Highways

The Department of Transportation (Caltrans) manages the State Scenic Highway Program. Caltrans provides guidance to local government agencies, community organizations and citizens that are pursuing the official designation of a State Scenic Highway.

In 1963, Senate Bill 1467 (Farr) added Sections 260 through 263 to the Streets and Highways Code. In these statutes the State proclaims intent to:

> “establish the State's responsibility for the protection and enhancement of California's natural scenic beauty by identifying those portions of the State highway system which, together with adjacent scenic corridors, require special conservation treatment." (Scenic corridors consist of land that is visible from, adjacent to, and outside the highway right-of-way, and is comprised primarily of scenic and natural features. Topography, vegetation, viewing distance, and/or jurisdictional lines determine the corridor boundaries.)

Existing law provides Caltrans with full possession and control of all State highways. This legislation places the Scenic Highway Program under the stewardship of Caltrans.

The legislation further declares the intent of the State to assign responsibility for the regulation of land use and development along scenic highways to the appropriate State and local governmental agencies. A county highway component was later added to the Scenic Highway Program in Section 154 of the Streets and Highways Code.

Commercial and Industrial Development Design Guidelines

The Banning Municipal Code (BMC) Chapter 17.12, Article III sets forth specific design guidelines for new commercial and industrial development within the city. The Design Guidelines provide a general framework for assessing compatibility of proposed development with the surrounding community, including guidelines for site planning, parking, landscaping, walls and fences, screening, lighting and architecture.

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **I. AESTHETICS:** Except as provided in Public Resources Code Section 21099, would the project: | | | | |
| a) Have a substantial adverse effect on a scenic vista? | | | X | |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | | | | X |
| c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | | | X | |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | | | X | |

## *Discussion*

*a) Have a substantial adverse effect on a scenic vista?*

**Less Than Significant Impact**. The State CEQA Guidelines do not provide a definition of what constitutes a "scenic vista" or "scenic resource" or a reference as to from what vantage point(s) the scenic vista and/or resource, if any, should be observed. Scenic resources are typically landscape patterns and features that are visually or aesthetically pleasing and that contribute affirmatively to the definition of a distinct community or region such as trees, rock outcroppings, and historic buildings.

A scenic vista is generally identified as a public vantage viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Common examples may include a public vantage point that provides expansive views of undeveloped hillsides, ridgelines, and open space areas that provide a unifying visual backdrop to a developed area.

The City of Banning is located in the San Gorgonio Pass area of Riverside County. The San Gorgonio Pass divides the San Bernardino Mountains to the north and the San Jacinto Mountains to the south. The dominant scenic vista associated with the Project Site are the backdrop of these mountains. The City's General Plan considers the mountain backdrops as significant visual features.

The Project Site does not contain a scenic vista nor are there any designated publicly accessible scenic vistas in the vicinity of the Project Site where the Proposed Project would disrupt the view. Therefore, potential impacts associated with scenic vistas would be less than significant, and no mitigation would be required.

*b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

**No Impact.** Scenic highways are designated as such because the traverse areas of distinctive natural beauty. According to the Caltrans California State Scenic Highway System Map (Caltrans 2023), State Route 243 south of the Banning city limit is the closest officially designated State Scenic Highway to the Project Site. Additionally, S. 8$^{th}$ street and segments of W. Lincoln Street between S. 8$^{th}$ street and S. San Gorgonio Avenue are eligible to be designated as a State Scenic Highway, although the official designation has not occurred.

The Project Site is not located on a state scenic highway, nor on that portion to W. Lincoln Avenue identified as having potential for future designation as a state scenic highway. Therefore, no impacts associated with scenic resources within a state scenic highway would occur, and no mitigation would be required.

*c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

**Less than Significant Impact.** The Project will not substantially degrade the existing visual character or quality of the site and its surroundings. The Project Site is located in an urbanized area within a mix of Industrial (I) and General Commercial (GC) zoning and Land use designation which will be rezoned to Industrial (I). The Project would replace an unimproved lot with cohesively designed warehouse and outdoor storage. The Proposed Project is consistent with the intended land use for the area, and it is compatible with the surrounding uses. The Proposed Project would change the visual character of the Project Site, which is currently vacant and undeveloped, by adding a warehouse building and outdoor storage. However, the Proposed Project complies with BMC Chapter 17.12, Article III, Commercial and Industrial

Development Design Guidelines, and will be consistent and compatible with existing and proposed industrial development in areas planned for those uses. The height of the proposed building will be 36'-4" where maximum of 50' is allowed. The Proposed Project maintains a 26'-8" landscape buffer along W. Lincoln Street. The facility will provide approximately 64,504 SF of landscaped area (approximately 10.4 percent of the net lot area), where none is required. In addition, the Project would provide right-of-way and develop half width street improvements along the Project's frontage of W. Lincoln Street, including curbs, sidewalks, and parkway. The resulting aesthetic would be more organized and unified compared to the existing conditions. While the Project will markedly change the visual quality of the Project Site, it would not degrade the existing visual character or quality of the site or surroundings. Impacts would be less than significant.

*d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

**Less than Significant Impact. -** The Project Site is vacant and within the Industrial zone (after re-zone), which envisions industrial uses similar to the Proposed Project. The Proposed Project would introduce new sources of nighttime light and glare into the area from improved street lighting and additional security lighting at the Project Site. However, all lighting at the Project Site would be consistent with the requirements in the Banning Municipal Code Section 17.12.170, which includes shielding parking lot lights to confine light spread within the site boundaries.

The Project Site is within Compatibility Zone D of Banning Municipal Airport Compatibility Plan, which sets standards for development that may have an impact on operations of the airport, including lighting. The Proposed Project was reviewed by the Riverside Airport Land Use Commission (ALUC) and received approval as of October 5, 2023 that the project design complies with all Compatibility Plan standards. Therefore, potential impacts associated with light and glare would be less than significant.

## *Mitigation Measures*

No mitigation measures associated with impacts to Aesthetic apply to the Proposed Project.

## *Conclusion*

There will be no impacts of the Proposed Project associated with Aesthetics, and no mitigation would be required.

## 4.2 Agriculture and Forestry Resources

### *Environmental Setting*

The Project Site is located on the north side of W. Lincoln Street between S. 8th Street and S. 16th Street. The Proposed Project would be constructed on three vacant parcels which will be consolidated into one parcel. The Project Site is currently split between Industrial (I) and General Commercial (GC) and zoning and General Plan designations which will be rezoned to Industrial. The Industrial zone allows for a variety of uses such as manufacturing, research and development, warehouse and distribution, and accessory retail uses.

According to the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) and the County of Riverside GIS Map, the Project Site is identified as Other Land (**Figure 10** – *Project Site Agricultural Designation*). FMMP identifies Other Land as vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

On site soils as identified by the U.S. Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) Soil Survey data sets are identified in **Table 2 -** *On-Site Soils Classification* and are depicted on **Figure 11 –** *Soil Map.*

**Table 2 - On-Site Soils Classification**

| Map Unit Symbol | Map Unit Name |
|---|---|
| HcC | Hanford coarse sandy loam, 2 to 8 percent slopes |
| RaB2 | Ramona sandy loam, 2 to 5 percent slopes, eroded |

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **II. AGRICULTURE AND FORESTRY RESOURCES:**<br>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.<br>Would the project: | | | | |
| a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | | | | X |
| b) Conflict with existing zoning for agricultural use or a Williamson Act contract? | | | | X |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | | | | X |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | | | | X |
| ) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | | | | X |

## *Discussion*

*a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?*

**No Impact.** According to the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) and the County of Riverside GIS Map, the Project Site is identified as Other Land. FMMP identifies Other Land as vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. The Project Site is currently split between General Commercial (GC) (APN 540-180-022) and Industrial (I) (APN 540-180-020 and -026) zoning and General Plan designations. Because the Project Site is not classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the FMMP, there would be no impact to convert such lands to nonagricultural use, and no mitigation would be required.

*b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

**No Impact.** The Project Site is currently split between General Commercial (GC) (APN 540-180-022) and Industrial (I) (APN 540-180-020 and -026) zoning and General Plan designations, which do not allow for agricultural land uses as a permitted use. Parcel No. 540-180-022 will be rezoned to Industrial. None of the three parcels that make up the Project Site have an active Williamson Act contract in place. Therefore, no impacts associated with existing zoning for agricultural use, or a Williamson Act contract would occur, and no mitigation would be required.

*c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

**No Impact.** The Project Site is currently split between General Commercial (GC) (APN 540-180-022) and Industrial (I) (APN 540-180-020 and -026) zoning and General Plan designations and is not zoned as forest land, timberland, or timberland zoned Timberland Production. Parcel No. 540-180-022 will be rezoned to Industrial. Therefore, no impacts associated with forest land or timberland would occur, and no mitigation would be required.

*d) Result in the loss of forest land or conversion of forest land to non-forest use?*

**No Impact.** The Project would not result in the loss of forest land or conversion of forest land to non-forest use. The Project Site is not designated as forest land or timberland. The Project Site is relatively flat and covered with native grasses, shrubs and weeds, and does not contain any trees. Therefore, no impacts would occur and no mitigation measures are required.

*e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or the conversion of forest land to non-forest use?*

**No Impact**. The Project will not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to a non-agricultural use because there are no parcels within the vicinity of the subject property that are designated as Farmland of any kind or used for agricultural purposes. Therefore, no impacts would occur and no mitigation measures are required.

### *Mitigation Measures*

No mitigation measures associated with impacts to Agriculture and Forestry Services apply to the Proposed Project.

### *Conclusion*

There will be no impacts of the Proposed Project associated with Agriculture and Forestry Services, and no mitigation would be required.

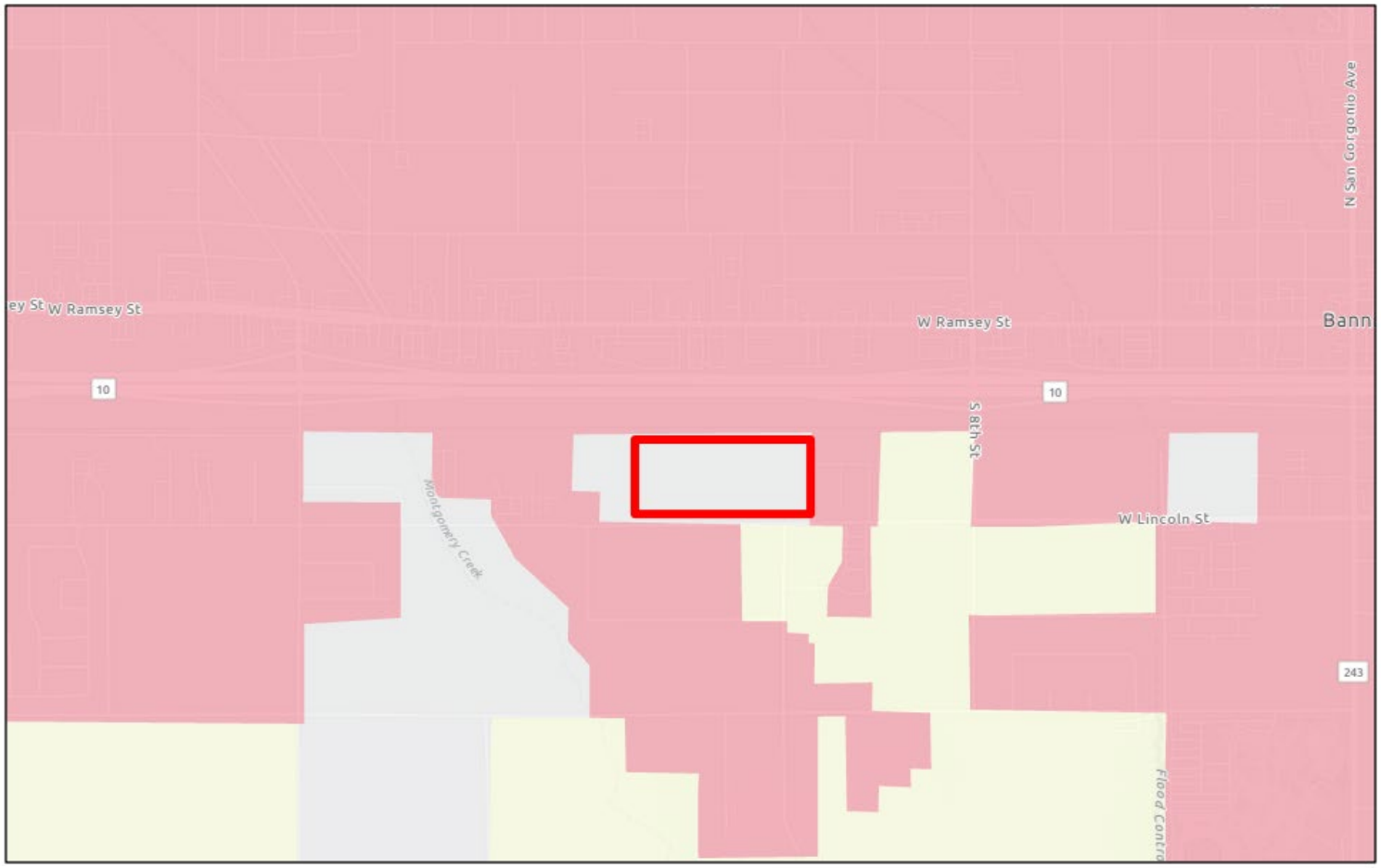



Figure 10: Project Site Agricultural Designation

Source: *California Department of Conversation*

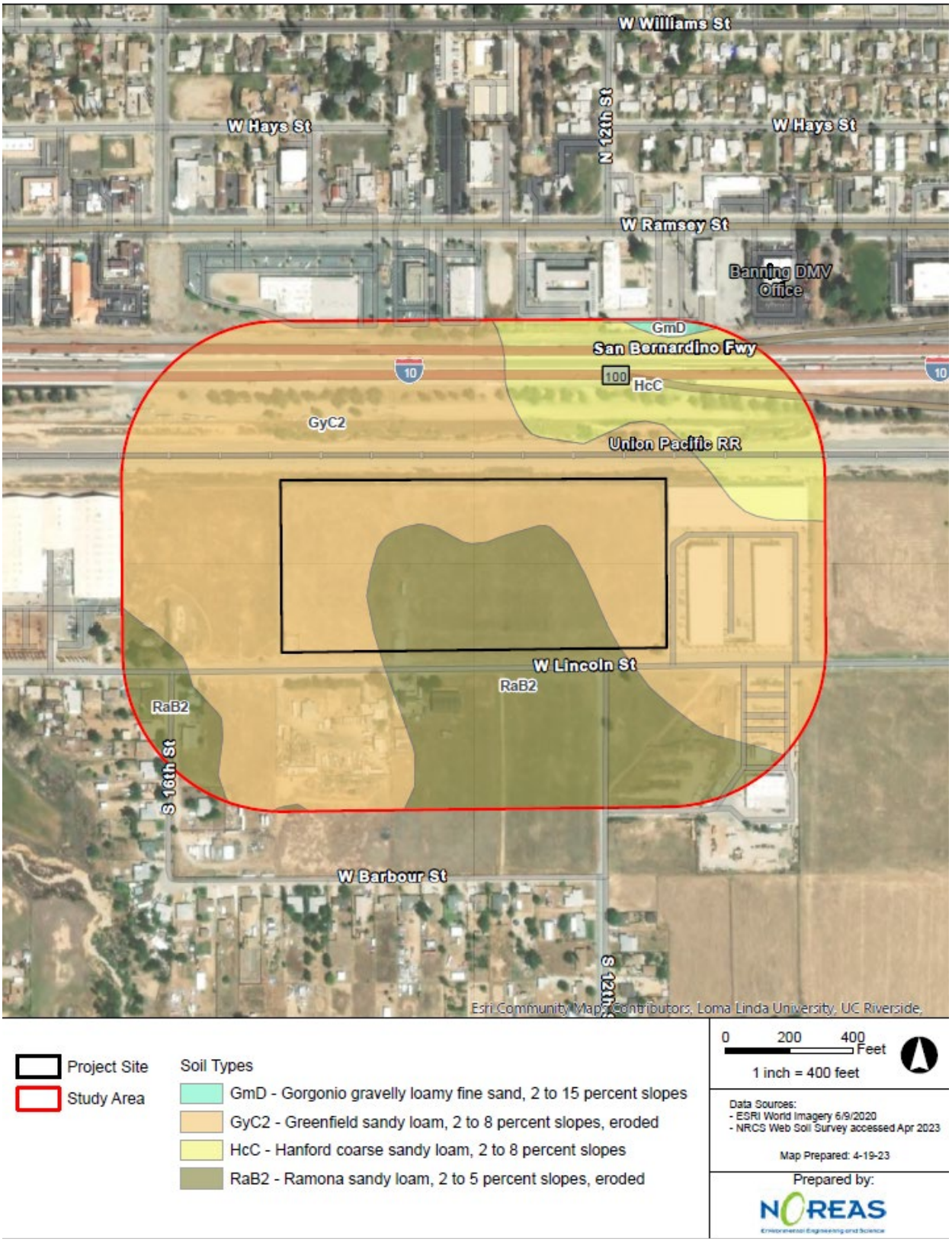



Figure 11: Soils Map

Source: *NOREAS Inc., MSHCP Consistency Analysis*

## 4.3 Air Quality

Ganddini Group Inc. (Ganddini) performed an Air Quality, Global Climate Change, Health Risk Assessment and Energy Impact Analysis for the Proposed Project to assess potential impacts to air quality (**Appendix A** – *Brown Strauss Industrial Project Air Quality, Global Climate Change, HRA and Energy Impact Analysis*, Ganddini Group, November 29, 2023).

### *Regulatory Setting*

Air pollutants are regulated at the national, state, and regional level. The United States Environmental Protection Agency (EPA) regulates at the national level under the Clean Air Act of 1970. It is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. The California Air Resources Board (CARB), which is a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, establishes emission standards, develops suggested control measures, provides oversight of local programs, and prepares the State Implementation Plan. The South Coast Air Quality Management District (SCAQMD) is responsible for comprehensive air pollution control in the South Coast Air Basin. The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. The SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources.

There are six common air pollutants, called criteria pollutants, which were identified from the provisions of the Clean Air Act of 1970.

- Ozone ($O_3$)
- Nitrogen Dioxide ($NO_2$)
- Carbon Monoxide (CO)
- Sulfur Dioxide ($SO_2$)
- Lead (Pb)
- Particulate Matter (PM10 and PM2.5)

The EPA and CARB designate air basins where ambient air quality standards are exceeded as “nonattainment” areas. If standards are met, the area is designated as an “attainment” area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered “unclassified.” National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

The Project Site is in the City of Banning, which is part of the South Coast Air Basin (SCAB) that includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and all

of Orange County. The SCAQMD's 2022 Air Quality Management Plan (AQMP) assesses the attainment status of the SCAB. The 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emission technologies, when cost-effective and feasible, and low NOx technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other Clean Air Act measures to achieve the 2015 8-hour ozone standard. The 2022 AQMP was approved and adopted by CARB on January 26, 2023.

## *Environmental Setting*

The South Coast Air Basin is a 6,600-square-mile coastal plain bounded by the Pacific Ocean to the southwest and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The ambient concentrations of air pollutants are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. The topography and climate of southern California combine to make the Basin an area of high air pollution potential. The Basin is a coastal plain connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds.

The usually mild climatological pattern is disrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. In addition, light winds during the summer further limit ventilation. Furthermore, sunlight triggers the photochemical reactions that produce ozone. The region experiences more days of sunlight than any other major urban area in the nation except Phoenix (SCAQMD, 2007).

The temperature and precipitation levels are for the City of Redlands, the closest monitoring site to the Project Site with data. August is typically the warmest month and December is typically the coolest month. Rainfall in the surrounding area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry (Appendix A).

## *Local Air Quality*

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates of the existing emissions in the Basin provided in the 2022 AQMP indicate that collectively, mobile sources account for 46 percent of the VOC, 85 percent of the NOx emissions, 89 percent of the CO emissions and 29 percent of directly emitted PM2.5, with another 18 percent of PM2.5 from road dust.

The SCAQMD has divided the South Coast Air Basin into 38 air-monitoring areas with a designated ambient air monitoring station representative of each area. The Project Site is in the Banning Airport Air Monitoring Area (Area 29). The nearest air monitoring station to the Project Site is the Banning Airport Monitoring Station (Banning Station). The Banning Station is located approximately 1.88 miles west of the Project Site at 200 S. Hathaway Street, Banning. However, it should be noted that due to the air monitoring station distance from the Project Site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the Project Site. The Banning Station data shows that during the past few years, the project area has exceeded the ozone standards (Appendix A, Table 4).

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **III. AIR QUALITY:** | | | | |
| Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. | | | | |
| Would the project: | | | | |
| a) Conflict with or obstruct implementation of the applicable air quality plan? | | | X | |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? | | | X | |
| c) Expose sensitive receptors to substantial pollutant concentrations? | | | X | |
| d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people? | | | X | |

## *Discussion*

*a) Conflict with or obstruct implementation of the applicable air quality plan?*

**Less Than Significant Impact.** The Proposed Project would not conflict with or obstruct implementation of the SCAQMD Air Quality Management Plan (AQMP).

## *SCAQMD Air Quality Management Plan*

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a Proposed Project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the Proposed Project includes the SCAQMD AQMP. This section discusses any potential inconsistencies of the Proposed Project with the AQMP. If the decision-makers determine that the Proposed Project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A Proposed Project should be considered to be consistent with the AQMP

if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

> Criterion 1: Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
>
> Criterion 2: Whether the project will exceed the assumptions in the AQMP in 2022 or increments based on the year of project buildout and phase.

Criterion 1 - Increase in the Frequency or Severity of Violations?

Based on the air quality modeling analysis contained in Appendix A, neither short-term construction impacts, nor long-term operations would result in significant impacts based on the SCAQMD regional and local thresholds of significance.

Therefore, the Proposed Project is not projected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for Criterion 1.

Criterion 2 - Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the Proposed Project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the Proposed Project are based on the same forecasts as the AQMP. The 2020-2045 Regional Transportation/Sustainable Communities Strategy prepared by SCAG (2020) includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this Project, the City of Banning Land Use Plan defines the assumptions that are represented in the AQMP.

The Project Site has an existing designation of General Commercial (GC) and Industrial (I) in the City's General Plan. The Proposed Project includes a General Plan Amendment and Zone Change from General Commercial (GC) and Industrial (I) to Industrial (I). As the Proposed Project is that of a steel manufacturing and distribution use, it is not currently consistent with the existing land use and zoning designations. However, once the Policy Plan Amendment and Zone Change are approved, the project would be consistent with the general plan and zoning designations. Although the project and Policy Plan Amendment and Zone Change may initially result in an inconsistency with the AQMP on paper, the inconsistency would not necessarily constitute a conflict with the AQMP. Because the parcels in question would be changed from commercial and industrial to just industrial, the project would not be expected to result in population growth beyond that assumed in the AQMP assumptions. The SCAQMD acknowledges that strict consistency with all aspects of the AQMP is not required in order to make a finding of no conflict. Rather, a project is considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The project would

implement contemporary energy-efficient technologies and regulatory/operational programs required per Title 24, CALGreen and City standards. Generally, compliance with SCAQMD emissions reductions and control requirements also act to reduce project air pollutant emissions. In combination, project emissions-reducing design features and regulatory/operational programs are consistent with and support overarching AQMP air pollution reduction strategies. Project support of these strategies promotes timely attainment of AQMP air quality standards and would bring the project into conformance with the AQMP. Therefore, the Proposed Project is not anticipated to exceed the AQMP assumptions for the Project Site and is found to be consistent with the AQMP for the second criterion.

Based on the above, the Proposed Project will not result in an inconsistency with the SCAQMD AQMP. A less than significant impact will occur, and no mitigation will be required.

*b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

**Less Than Significant Impact.** Air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used to determine whether a project's individual emissions would have a cumulatively considerable contribution to air quality. If a project's emissions exceeded the SCAQMD's significance thresholds, it would be considered to have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

The Project Site is in the SCAB, which has been designated by the EPA as a non-attainment area for ozone ($O_3$) and suspended particulates (PM2.5). Currently, the Basin is in attainment with the ambient air quality standards for carbon monoxide (CO), lead, sulfur dioxide ($SO_2$), suspended particulate matter (PM10), and nitrogen dioxide (NO2) (Appendix A).

CalEEMod, Version 2022.1.1.20, was used to estimate emissions from construction and operation of the project. The following discussion summarizes the quantitative project-generated construction and operational emissions and impacts that would result from implementation of the project. Detailed assumptions and results of this analysis are provided in Appendix A. Based on the analysis provided in Appendix A, the Proposed Project would result in short-term emissions from construction associated with grading, building construction, paving, and architectural coating. The Proposed Project would also generate operational emissions associated with new vehicle traffic and energy use.

<u>Construction Impacts</u>

Construction activities associated with the Proposed Project would result in emissions of reactive organic gases (ROG), nitrogen oxides (NOx), carbon (CO), sulfur dioxide ($SO_2$), PM10,

and PM2.5, however, none are above the SCAQMD thresholds, as shown in **Table 3 –** *Construction-Related Regional Pollutant Emissions*. Therefore, potential impacts associated with construction emissions would be less than significant, and no mitigation would be required.

**Table 3 – Construction-Related Regional Pollutant Emissions**

| Activity | Pollutant Emissions (pounds/day) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | CO | $SO_2$ | PM10 | PM2.5 |
| Maximum Daily Emissions[1, 2] | 33.70 | 34.40 | 31.80 | 0.06 | 5.30 | 2.82 |
| SCAQMD Thresholds | 75 | 100 | 550 | 150 | 150 | 55 |
| Exceeds Thresholds? | No | No | No | No | No | No |

Notes:
Source: CalEEMod Version 2022.1.1.20.
1. Includes on-site and off-site emissions. On-site grading PM-10 and PM-2.5 emissions show compliance with SCAQMD Rule 403 for fugitive dust.
2. Construction, painting and paving phases may overlap.

Operational Impacts

Operational activities associated with the Proposed Project would result in emissions of ROG, NOx, CO, $SO_2$, PM10, and PM2.5, however, none are above the SCAQMD thresholds as shown in **Table 4 -** *Regional Operational Pollutant Emissions*.

**Table 4 – Regional Operational Pollutant Emissions**

| Activity | Pollutant Emissions (pounds/day) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | CO | $SO_2$ | PM10 | PM2.5 |
| Maximum Daily Emissions | 3.75 | 23.90 | 34.00 | 0.14 | 6.16 | 2.18 |
| SCAQMD Thresholds | 55 | 55 | 550 | 150 | 150 | 55 |
| Exceeds Thresholds? | No | No | No | No | No | No |

Notes:
Source: CalEEMod Version 2022.1.1.20; the higher of either summer or winter emissions.

Since the Proposed Project would not introduce any substantial stationary sources of emissions, CO is the benchmark pollutant for assessing local area air quality impacts from post-construction motor vehicle operations. No violations of the state and federal CO standards are projected to occur, based on the magnitude of traffic the Proposed Project is anticipated to generate. Operation of the Proposed Project would not result in a cumulatively considerable

net increase for nonattainment of criteria pollutants or ozone precursors. Therefore, potential impacts associated with regional air quality would be less than significant, and no mitigation would be required.

*c) Expose sensitive receptors to substantial pollutant concentrations?*

**Less Than Significant Impact.** Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities (South Coast Air Quality Management District 2008). Commercial and industrial facilities are not included in the definition because employees do not typically remain on-site for 24 hours.

The nearest sensitive receptors to the Project Site include: the existing single-family residential land uses located as close as approximately 75 feet (~23 meters) south of the Project Site (along the southern side of Lincoln Avenue). However, it should be noted that these existing residential uses are non-conforming land uses. The area is designated as Business Park on the City of Banning General Plan and Zoning Map. Other air quality sensitive land uses are located further from the Project Site and would experience lower impacts.

Project-related construction and operational air emissions may have the potential to exceed the State and Federal air quality standards in the vicinity of the Project Site, even though these pollutant emissions would not be significant enough to create a regional impact to the SCAB. In order to assess local air quality impacts the SCAQMD has developed Localized Significant Thresholds (LSTs) to assess the Proposed Project-related air emissions. The SCAQMD has also provided Final Localized Significant Threshold Methodology (LST Methodology), June 2003, which details the methodology to analyze local air emission impacts. The Localized Significant Threshold Methodology found that the primary emissions of concern are $NO_2$, CO, PM10, and PM2.5.

The emission thresholds were calculated based on the Banning Airport source receptor area (SRA) 29 and a disturbance value of two acres per day, to be conservative, at a distance of 25 meters.

Construction

The data provided in **Table 5 –** *Local Construction Emissions at the Nearest Receptors* shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds during construction at the nearest sensitive receptors. Therefore, potential impacts associated with significant exposure of sensitive receptors to substantial pollutant concentrations during construction would be less than significant, and no mitigation would be required.

**Table 5 – Local Construction Emissions at the Nearest Receptors**

| Activity | On-Site Pollutant Emissions (pounds/day) | | | |
|---|---|---|---|---|
| | NOx | CO | PM10 | PM2.5 |
| Grading | 34.30 | 30.20 | 5.04 | 2.75 |
| Building Construction | 14.40 | 17.50 | 0.64 | 0.59 |
| Paving | 7.45 | 9.98 | 0.35 | 0.32 |
| Architectural Coating | 0.88 | 1.14 | 0.03 | 0.03 |
| SCAQMD Thresholds[1] | 149 | 1,541 | 10 | 6 |
| Exceeds Threshold? | No | No | No | No |

Notes:
Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 2 acres, to be conservative, at a distance of 25 m in SRA 29 Banning Airport.

(1) The nearest sensitive receptors are the existing single-family residential land uses located approximately 75 feet (~23 meters) south of the Project Site; therefore, the 25-meter threshold was used.
Note: The project will disturb up to a maximum of 4 acres a day during grading.

Operations

**Table 6** shows the on-site emissions from the CalEEMod model that includes natural gas usage, landscape maintenance equipment, and vehicles operating on-site and the calculated emissions thresholds. Per LST methodology, mobile emissions include only on-site sources which equate to approximately 10 percent of the project-related new mobile sources.

**Table 6 – Local Operational Emissions at the Nearest Receptors**

| On-Site Emission Source | On-Site Pollutant Emissions (pounds/day)[1] | | | |
|---|---|---|---|---|
| | NOx | CO | PM10 | PM2.5 |
| Area Sources[2] | 0.02 | 2.13 | 0.01 | 0.01 |
| Energy Usage[3] | 0.25 | 0.21 | 0.02 | 0.02 |
| Vehicle Emissions[4] | 1.11 | 1.39 | 0.55 | 0.16 |
| Off-Road[5] | 12.50 | 17.70 | 0.66 | 0.61 |
| **Total Emissions** | **13.88** | **21.43** | **1.23** | **0.79** |
| SCAQMD Thresholds[6] | 236 | 2,817 | 6 | 2 |
| Exceeds Threshold? | No | No | No | No |

Notes:

1. Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 5 acres, to be conservative, in SRA 29.
2. Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.
3. Energy usage consists of emissions from on-site natural gas usage.
4. On-site vehicular emissions based on 1/10 of the gross vehicular emissions and road dust.
5. On-site operations in the yard include the use of up to 6 diesel forklifts, which are to be in operation during all shift hours (two shifts, 5 AM to 1:30 PM and 3:00 PM to 11:30 PM) or a total of 17 hours a day. To be conservative, the modeling assumed up to 8 diesel forklifts at 17 hours a day. In addition, 1 electric crane is to operate within the warehouse during shift hours.
6. The nearest sensitive receptors are the existing single-family residential land uses located approximately 75 feet (~23 meters) south of the Project Site; therefore, the 25 meter threshold was used.

The data provided in **Table 6** shows that the on-going operations of the Proposed Project would not exceed SCAQMD local operational thresholds of significance. Therefore, the on-going operations of the Proposed Project would create a less than significant operations-related impact to local air quality due to on-site emissions and no mitigation would be required.

CO Hot Spot Emissions

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts.

To determine if the Proposed Project could cause emission levels in excess of the CO standards, a sensitivity analysis is typically conducted to determine the potential for CO "hot spots" at a number of intersections in the general vicinity of the Project Site. Because of reduced speeds and vehicle queuing, "hot spots" potentially can occur at high traffic volume intersections with a Level of Service E or worse.

The Traffic Impact Analysis for the Proposed Project (**Appendix I**) showed that the Proposed Project would generate a maximum of approximately 191 daily vehicle trips. The intersection with the highest traffic volume is located at 8$^{th}$ Street and Lincoln Street and has an AM peak hour volume of 240 vehicles. The 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan) showed that an intersection which has a daily traffic volume of approximately 100,000 vehicles per day would not violate the CO standard. Therefore, as the intersection volume falls far short of 100,000 vehicles per day, no CO "hot spot" modeling was performed, and no significant long-term air quality impact is anticipated to local air quality with the on-going use of the Proposed Project.

*Health Risk Assessment*

The on-going operation of the Proposed Project would generate toxic air contaminant (TAC) emissions from diesel truck and rail emissions created by the on-going operations of the Proposed Project. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the

likelihood that a person exposed to concentrations of toxic air contaminants over a 30-year lifetime will contract cancer.

The California Air Pollution Control Officers Association (CAPCOA) has developed TAC health risk assessment guidelines to provide consistent, statewide procedures for preparing the health risk assessments required under the Air Toxics "Hot Spots" Act. The most recent Health Risk Assessment for Proposed Land Use Projects, prepared by CAPCOA in July 2009, recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). In addition, new sensitive land uses should also be avoided within 1,000 feet of a major service and maintenance rail yard.

Per the Transportation Study Screening Assessment, the Proposed Project is anticipated to have up to approximately 92 truck trips per day (non-PCE). Therefore, as it is not anticipated to accommodate more than 100 trucks per day, a quantitative health risk assessment for the proposed on-site warehouse uses is not warranted or required. In addition, the number of rail cars anticipated by the Proposed Project was found to be negligible and was not included in the TIA. Per the project applicant, the proposed rail spur at the Project Site is anticipated to have up to three rail cars a week. At three rail cars a week, daily emissions from rail-related emissions would be from a maximum of one rail trip per day and would therefore be negligible. As shown in the operational LST analysis, the PM emissions from the on-site off-road equipment (diesel forklifts) do not exceed any operational LST thresholds and would add a negligible TAC risk to the closest receptors.

Therefore, a quantitative health risk assessment for the proposed on-site rail, truck and forklift activity is not warranted or required as PM exhaust emissions and cancer risk would not exceed SCAQMD MICR threshold of 10 in a million at the closest receptor locations.

Significant TAC impacts from the Project-related operational sources are not anticipated, and no significant long-term operations-related TAC impacts from the Proposed Project to nearby sensitive receptors would occur.

Therefore, potential impacts associated with exposing sensitive receptors to substantial pollutant concentrations from operation of the Proposed Project would be less than significant, and no mitigation would be required.

*d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

**Less Than Significant Impact.** The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are short-term in nature and the odor emissions are expected to cease upon the drying or hardening of the odor producing materials. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the Proposed Project. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the Project Site and therefore should not reach an objectionable level at the nearest sensitive receptors.

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less than significant.

The project does not propose any uses or activities that would result in potentially significant operational-source odor impacts. Potential sources that may emit odors during the on-going operations of the Proposed Project would include odor emissions from the intermittent diesel delivery truck emissions and trash storage areas. Due to the distance of the nearest receptors from the Project Site and through compliance with SCAQMD's Rule 402, no significant impact related to odors would occur during the on-going operations of the Proposed Project. Potential operational-source odor impacts are therefore considered less than significant.

### *Mitigation Measures*

No mitigation measures associated with impacts to Air Quality apply to the Proposed Project.

### *Conclusion*

The air quality impacts of the Proposed Project would be less than significant, and no Project-specific mitigation is required.

## 4.4 Biological Resources

Biological surveys were completed was completed to determine potential impacts to biological services associated with the development of the Proposed Project (**Appendix B-1** – *Brown Strauss Industrial Project, General Biological Resources Assessment,* NOREAS, Inc.*,* July 2023; **Appendix B-2** – *Brown Strauss Industrial Project, Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis*, NOREAS, Inc. July 2023).

### *Regulatory Setting*

Given the urban environment, regulations governing biological resources for this Project include the following:

*Migratory Bird Treaty Act*

The federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C 703-711) provides protection for nesting birds that are both residents and migrants whether they are considered sensitive by resource agencies. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The direct injury or death of a migratory bird, due to construction activities or other construction-related disturbance that causes nest abandonment, nestling abandonment, or forced fledging would be considered a take under federal law. The USFWS, in coordination with the California Department of Fish and Wildlife (CDFW) administers the MBTA. CDFW's authoritative nexus to MBTA is provided in California Fish and Game Code (FGC) Sections 3503.5 which protects all birds of prey and their nests and FGC Section 3800 which protects all non-game birds that occur naturally in the State.

*Western Riverside Multiple Species Habitat Conservation Plan*

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is the applicable habitat conservation plan for western Riverside County. The City of Banning is a signatory to the MSHCP. Section 6 of the MSHCP identifies that all projects must be evaluated for riverine/riparian resources, vernal pools, and specific resources if mapped for Amphibian, Burrowing Owl, Criteria Area Species, Mammals, Narrow Endemic Plants, and Invertebrate.

### *Environmental Setting*

The Project Site consists of 14.92 acres encompassing Assessor's Parcel Numbers (APNs) 540-180-020, 540-180-022 and540-180-026 located on the north side of W. Lincoln Street between S. 8th Street and S. 16th Street, within the Banning United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle Map (USGS 1984) - Section 9, of Township 3 South and Range East. (**Figures 2** and **3**).

The Project Site is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), within the Pass Area Plan, Badlands Habitat Management Unit. The Project Site is not within the boundaries of any MSHCP established Subunit, Cell Group, Criteria

Cell, Public/Quasi-Public Land, Linkages/Cores, Conserved Lands, or Regional Conservation Authority (RCA) Easements.

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **IV. BIOLOGICAL RESOURCES:**<br>Would the project: | | | | |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | | X | | |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | | | | X |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means | | | | X |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | | | X | |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | | | | X |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | | X | | |

## *Discussion*

*a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

**Less Than Significant Impact with Mitigation Incorporated.** Based on the literature review and field survey located in **Appendix B-1**, implementation of the Proposed Project will have no significant impacts on Federal or State species known to occur in the general vicinity of the Project Site because it is in an urbanized area, no habitat for sensitive species exist, no sensitive species exist.

The MSHCP shows that the Project Site is not located within any area that requires habitat surveys for criteria area plant species, amphibian, or mammal species. The Project Site is in an area shown for habitat assessments for the following species:

- Narrow Endemic Plants: Marvin's onion (Allium marvinii); and Many-stemmed dudleya (Dudleya multicaulis).
- Burrowing Owl

The biological survey (**Appendix B-1**) identified that suitable habitat was present – albeit low quality, for narrow endemic plant species. However, no special status animals, or narrow endemic pant species were observed within the Project Site during the 2022 and 2023 field survey events. Habitat in the vicinity of the Project consists of developed/disturbed and ruderal land cover types. To that end, the results of the MSHCP narrow endemic plant species surveys imply that there are no special status plants present within the Project Site. No mitigation is required because no MSHCP narrow endemic plant species exist within the Project Site.

The Project Site does, however, support BUOW habitat, although none were found during the surveys conducted (**Appendix B-1**). The Project Site consists of heavily disturbed ruderal vegetation, with no substantial native stands of vegetation. Although the Project has potential to impact lands that could be utilized by Burrowing Owls as habitat – under the appropriate suite of environmental conditions, surveys for the species are negative. Therefore, there is no presumption that the Project would result in the loss of individual Burrowing Owls, or that it would adversely affect local - or regional, populations of them.

Due to the presence of potentially suitable habitat, a 30-day pre-construction survey for Burrowing Owls is warranted prior to initial ground-disturbing activities (including vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, grading, etc.). This is an MSHCP requirement, which safeguards that no owls have colonized the Project Site in the days - or weeks, preceding ground-disturbing activities. Procedure for the burrowing owl survey is included as mitigation measure **MM BIO-2**.

*b) Have a substantial adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

**No Impact.** Based on the records search and field review in **Appendix B-1** and **B-2**, there are no drainages on site. The biological resources survey also identified that riverine/riparian resources and vernal pools as defined by the MSHCP were absent from the Project Site. There are no other sensitive natural communities on the Project Site. There are no impacts, and no mitigation would be required.

*c) Have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

**No Impact.** The Project Site does not contain any drainages or state or federally protected wetlands. Therefore, no impacts associated with wetlands would occur, and no mitigation would be required.

*d) Interfere substantially with the movement of any native resident or fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

**Less Than Significant Impact**. A wildlife corridor is defined as a linear landscape element which serves as a linkage between historically connected habitats/natural areas and is meant to facilitate movement between these natural areas. The project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, because there are no such corridors or nursery sites within or near the Project Site. Therefore, impacts are less than significant.

Therefore, potential impacts associated with movement of native wildlife would be less than significant, and no mitigation would be required.

*e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

**No Impact.** The Project Site is located in an urbanized area within a mix of Industrial (I) and General Commercial (GC) zoning and Land use designation which will be rezoned to Industrial (I). The Proposed Project complies with City of Banning General Plan policies or ordinances related to protecting biological resources or trees. Therefore, no conflicts with local policies or ordinances protecting biological resources would occur, and no mitigation would be required.

*f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

**Less Than Significant Impact with Mitigation Incorporated**. The Project Site is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The Project

Site is not within the boundaries of any MSHCP established Subunit, Cell Group, Criteria Cell, Public/Quasi-Public Land, Linkages/Cores, Conserved Lands, or Regional Conservation Authority (RCA) Easements. Of the mapped resources, the Project Site only required an evaluation for narrow endemic sensitive plat species and burrowing owl. A biological resource assessment was conducted of the Project Site that included a habitat suitability assessment for narrow endemic plants and burrowing owl. Suitable habitat exists – albeit low quality, for narrow endemic pant species, however, no special status animals, or narrow endemic pant species were observed within the Project Site during the 2022 and 2023 field survey events. Suitable habitat exists for burrowing owl, although there were no individuals found during the protocol surveys.

In addition to Criteria Area requirements, the MSHCP requires consistency with Sections 6.1.2 (Protection of Species within Riparian/Riverine Areas and Vernal Pools), 6.1.3 (Protection of Narrow Endemic Plant Species), 6.1.4 (Urban Wildlands Interface), 6.3.2 (Additional Survey Needs and Procedures), and Appendix C (Standard Best Management Practices).

Section 6.1.2 - Protection of Species within Riparian/Riverine Areas and Vernal Pools

According to the USGS and the United Sates Fish and Wildlife Service (USFWS) National Wetland Inventory: there are no current or historical drainages on, or adjacent to, or even near the Project Site. There was also no evidence of current or historical drainages / water conveyance features observed during the field evaluations of the study area. No hydric vegetation, hydric soils, signs of surface flow, and/or wetland hydrology are present in, adjacent to, or near any portion of the Project Site. Therefore, no riparian/riverine areas occur within Project limits. Furthermore, there are no features within the Project Site that have a surface connection to Montgomery Creek. It is also notable, that both EPA WATERS GeoViewer results, National Wetland Inventory and USGS 7.5 Quadrangle Map evidence no stream channels within the Project Site. Additionally, soil types mapped within the Project Site are well drained, and none have a hydric soil rating. There is no impact to riparian/riverine resources because no evidence of any soils, plants or other features that meet the definition of 6.1.2 of the MSHCP were visible within the study area and no mitigation measures are recommended for the Proposed Project.

A review of recent and historic aerial photographs of the Project Site and its immediate vicinity did not provide visual evidence of an astatic or vernal pool conditions – on, or in the vicinity of the Project Site. Two soil types occur within the Project Site based on U.S. Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) Soil Survey data set:

- Ramona sandy loam, 2 to 5 percent slopes; and
- Greenfield sandy loam, 2 to 8 percent slopes,

Of the above referenced soil types, none are the appropriate soils to support vernal pools, nor are they known to support seasonal wetlands, or special status invertebrates in Western Riverside County. No ponding was observed within the Project Site and the hydrologic regime associated with it does not support vernal pools, or astatic ponds. From the review of historic

aerial photographs and observations during the field investigations, it is concluded no vernal pools or suitable fairy shrimp habitat occur within the Project's permanent disturbance footprint. No mitigation measures are recommended for the Proposed Project.

Section 6.1.3 - Protection of Narrow Endemic Plant Species

The Project lies within a predetermined survey area for the following MSHCP Narrow Endemic Plant Species:

- Marvin's onion (Allium marvinii); and
- Many-stemmed dudleya (Dudleya multicaulis).

Field surveys for MSHCP narrow endemic plant species methods were derived from the standardized guidelines issued by the U.S. Fish and Wildlife Service (USFWS 2000), California Department of Fish and Wildlife (CDFW 2009) and the California Native Plant Society (CNPS 2001). Surveys were conducted during the appropriate blooming period for the MSHCP narrow

endemic plant species. Habitat in the vicinity of the Project consists of developed/disturbed and ruderal land cover types. To that end, the results of the MSHCP narrow endemic plant species surveys imply that there are no special status plants present within the Project Site. No mitigation measures are recommended for the Proposed Project.

Section 6.1.4 - Urban Wildlands Interface

The MSHCP Section 6.1.4 Guidelines are intended to address indirect effects associated with locating development in proximity to MSHCP Conservation Areas, where applicable. The Project's permanent impact area is not in proximity to an established Cell Group, Criteria Cell, PQP Land, Linkage / Core, Conserved Land, or RCA Conservation Easement, therefore, the MSHCP guidelines pertaining to Urban/Wildlands Interface for the management of edge factors such as lighting, urban runoff, toxics, and domestic predators do not apply.

Section 6.3.2 - Additional Survey Needs and Procedures

The Project Site is not within a predetermined survey area for MSHCP Criteria Area Plant Species. Therefore, no further discussion is made in this document with reference to MSHCP Criteria Area Plant Species.

In order to comply with the Migratory Bird Treaty Act, the Applicant/Developer shall perform a general pre-construction nesting bird survey in compliance CDFW protocols, as outlined in mitigation measure **MM BIO-1**.

The Project Site is within a mapped survey area for burrowing owl, in accordance with MSHCP Figure 6-4, and a recent review of the RCA MSHCP Information GIS map. The burrowing owl is a grassland specialist distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Habitat in the vicinity of the Project consists of non-native grasses, developed, and disturbed land cover types. No burrowing owls were detected nesting, foraging, or dispersing during pedestrian-based field surveys in 2022 and 2023. Numerous low quality potential burrows were observed within the study area. The burrows detected lacked any evidence of owl tracks,

molted feathers, cast pellets, prey remains, egg shell fragments, owl white wash, nest burrow decoration materials, or other items. Detailed field survey results are provided in Appendix E. Burrowing owl are absent from the Project Site. However, to safeguard there will be no unforeseen impact to burrowing owl, a targeted pre-construction survey shall be required per mitigation measure **MM BIO-2.**

Appendix C - Standard Best Management Practices

- Volume 1, Appendix C of the MSHCP guidelines outlines best management practices that may be applicable to Proposed Projects on a case-by-case basis. Based on the scope of work for the Proposed Project, the following BMPs are applicable:
- *No.2* - Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.
- *No. 3* – The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via preexisting access routes to the greatest extent possible.
- *No. 12* – Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
- *No. 13* – To avoid attracting predators of the species of concern, the Project Site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
- *No. 14* – Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the Proposed Project Site and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
- *No. 15* - The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/ enhancement area for compliance with project approval conditions including these BMPs.

The project has been designed to incorporate compliance with the abovementioned BMPs. Implementation of applicable MSHCP guidelines constitutes mandatory compliance with existing regulations, therefore no project-specific mitigation measures are required.

Conclusion

The Proposed Project is required to comply mitigation measures **MM BIO-1 and MM BIO-2** to ensure that Project-specific impacts to nesting birds, including burrowing owl, would be less than significant. No other biological issues were identified with construction or operation of the Proposed Project.

## *Mitigation Measures:*

**MM BIO-1:**

In order to avoid violation of the MBTA and the California Fish and Game Code, site preparation activities (ground disturbance, construction activities, staging equipment, and/or removal of trees and vegetation) for the Project shall be avoided, to the greatest extent possible, during the nesting season of potentially occurring native and migratory bird species.

If site-preparation activities are proposed during the nesting/breeding season, the Project proponent shall retain a qualified biologist to conduct a pre-activity field survey prior to the issuance of grading permits for the Project to determine if active nests of species protected by the MBTA or the California Fish and Game Code are present in the construction zone.

If active nests are not located within the Project Site and an appropriate buffer of 500 feet of an active listed species or raptor nest, 300 feet of other sensitive or protected bird nests (non-listed), or 100 feet of sensitive or protected songbird nests, construction may be conducted during the nesting/breeding season. However, if active nests are located during the pre-activity field survey, the Biologist shall immediately establish a conservative avoidance buffer surrounding the nest based on their best professional judgement and experience. The Biologist shall monitor the nest at the onset of project activities, and at the onset of any changes in such project activities (e.g., increase in number or type of equipment, change in equipment usage, etc.) to determine the efficacy of the buffer. If the Biologist determines that such project activities may be causing an adverse reaction, the Biologist shall adjust the buffer accordingly or implement alternative avoidance and minimization measures, such as redirecting or rescheduling construction or erecting sound barriers. All work within these buffers will be halted until the nesting effort is finished (i.e., the juveniles are surviving independent from the nest). The on-site qualified biologist will review and verify compliance with these nesting avoidance buffers and will verify the nesting effort has finished. Work can resume within these avoidance areas when no other active nests are found. Upon completion of the survey and nesting bird monitoring, a report shall be prepared and submitted to the City of Banning for mitigation monitoring compliance record keeping.

**MM BIO-2:**

Project-specific habitat assessments and focused surveys for burrowing owls will be conducted for implementing development or infrastructure projects within burrowing owl survey areas. A pre-construction survey for resident burrowing owls will also be conducted by a qualified biologist within 30 days prior to commencement of grading and construction activities within those portions of implementing Project Sites containing suitable burrowing owl habitat and for those properties within an implementing Project Site where the biologist could not gain access. If ground disturbing

activities in these areas are delayed or suspended for more than 30 days after the pre-construction survey, the area shall be resurveyed for owls. The pre-construction survey and any relocation activity will be conducted in accordance with the current Burrowing Owl Instruction for the Western Riverside MSHCP.

If active nests are identified on an implementing Project Site during the pre-construction survey, the nests shall be avoided, or the owls actively or passively relocated. To adequately avoid active nests, no grading or heavy equipment activity shall take place within at least 250 feet of an active nest during the breeding season (February 1 through August 31), and 160 feet during the non-breeding season.

If burrowing owls occupy any implementing Project Site and cannot be avoided, active or passive relocation shall be used to exclude owls from their burrows, as agreed to by the City of Perris Planning Division and the CDFG. Relocation shall be conducted outside the breeding season or once the young are able to leave the nest and fly. Passive relocation is the exclusion of owls from their burrows (outside the breeding season or once the young are able to leave the nest and fly) by installing 1-way doors in burrow entrances. These 1-way doors allow the owl to exit the burrow, but not enter it. These doors shall be left in place 48 hours to ensure owls have left the burrow. Artificial burrows shall be provided nearby. The implementing project area shall be monitored daily for 1 week to confirm owl use of burrows before excavating burrows in the impact area. Burrows shall be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible pipe shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. The CDFG shall be consulted prior to any active relocation to determine acceptable receiving sites available where this species has a greater chance of successful long-term relocation. If avoidance is infeasible, then a DBESP will be required, including associated relocation of burrowing owls. If conservation is not required, then owl relocation will still be required following accepted protocols. Take of active nests will be avoided, so it is strongly recommended that any relocation occur outside of the nesting season.

### *Conclusion*

Implementation of mitigation measures **MM BIO-1 and MM BIO-2** would reduce potential impacts of the Proposed Project associated with Biological Resources to less than significant.

## 4.5 Cultural Resources

A Cultural and Paleontological Resources Assessment for the Proposed Project was performed for the Project in May 2023 (**Appendix C -** *Cultural and Paleontological Resources Assessment Report for the Brown Strauss Industrial Project,* Cogstone, May 2023).

Cultural resources include archaeological sites, buildings and other kinds of structures, historic districts, cultural landscapes, and resources important to specific ethnic groups.

Archaeological sites represent the material remains of human occupation and activity either prior to European settlement (prehistoric sites) or after the arrival of Europeans (historical sites).

The historic "built environment" includes structures used for work, recreation, education and religious worship, and may be represented by houses, factories, office buildings, schools, churches, museums, hospitals, bridges and other kinds of structures.

An historic district is any “geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history” (36 CFR 60.3).

The National Park Service defines a cultural landscape as “a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values”.

### *Regulatory Setting*

The National Historic Preservation Act (NHPA) of 1966, as amended and the California Public Resources Code (PRC), Section 5024.1, are the primary federal and state laws and regulations governing the evaluation and significance of historical resources of national, state, regional, and local importance.

*National Historic Preservation Act*

Section 106 (Protection of Historic Properties) of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies to consider the effects of their undertakings on historic properties. The Advisory Council on Historic Preservation, an independent federal agency, administers the Section 106 review process with assistance from State Historic Preservation Offices to ensure that historic properties are considered during federal project planning and implementation. The National Register of Historic Places is the nation's official list of buildings, structures, objects, sites, and districts worthy of preservation because of their significance in American history, architecture, archeology, engineering, and culture.

*California Register of Historical Resources*

The California Register program encourages public recognition and protection of resources of architectural, historical, archeological and cultural significance, identifies historical resources

for state and local planning purposes, determines eligibility for state historic preservation grant funding and affords certain protections under the California Environmental Quality Act. The California Register was established to serve as an authoritative guide to the state's significant historical and archaeological resources (PRC § 5024.1). The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation (DPR), implements the policies of the NHPA on a statewide level.

## *Environmental Setting*

*Site History*

The Pacific Railroad passes through the northern portion of the Project Area in the 1901 San Jacinto (1:125,000), and 1901 and 1904 Southern California (1:250,000) United State Geological Survey (USGS) topographic quadrangle maps. An intermittent water course that passes through the western half of the Project Area is noted in the 1952 Banning (1:62,500) and 1965 Santa Ana (1:250,000) USGS topographic quadrangle maps. The 1966, 1967, 1972, and 1985 United States Department of Agriculture (USDA) historic aerial photographs show two farms at the east end of the Project Area and one in the western portion (NETROnline 1966, 1967, 1972, 1985), with all of them being near West Lincoln Street. A wide strip of land is under active cultivation around the western farm in the 1967 aerial photograph. The main buildings that are associated with the three farms are depicted on the Beaumont (1:24,000) USGS topographic quadrangle maps from 1972, 1979, 1988, and 1996. The Pacific Railroad track also shifts north and out of the Project Area in these maps. It is unclear if this is due to rail replacement but is more likely due to mapping error in the earlier maps. The Project Area is empty in the 1996 USDA aerial photograph except for some discoloration around where the buildings were once located. USDA aerial photographs from 1996, 2000, 2002, 2005, and 2009 show that between 1996 and 2000 the western approximately 60 percent of the Project Area was used as a metal supply yard, that between 2000 and 2002 the yard grew to cover the entire Project Area, and between 2005 and 2009 this use was discontinued and all stock was removed (NETROnline 1996, 2000, 2002, 2005, 2009). Two trailers are visible in the 2018 USDA aerial photograph in the western half of the Project Area. The Project Area shows no sign of use or activity, other than possible brush control, in USDA aerial photographs taken after 2009 (NETROnline 2009, 2010, 2012, 2014, 2016, 2018, 2020).

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **V. CULTURAL RESOURCES:** Would the project: | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5? | | | | X |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5? | | X | | |
| c) Disturb any human remains, including those interred outside of formal cemeteries? | | X | | |

## *Discussion*

*a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

**No Impact.** Public Resources Code Section 15064.5(a) defines historical resources, which includes: *A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 14 CCR, Section 4850 et seq.).*

Eastern Information Center (EIC) records indicate that two previous studies have been completed within the Project Area while an additional four studies have been completed previously within a half-mile radius of the Project Area (**Appendix C**, Table 4). No cultural resources have been recorded within the Project Area (**Appendix C**, Table C-1). Outside of the Project Area a total of 34 cultural resources have been previously documented within the half-mile search radius from the Project Area (**Appendix C**, Table C-1). These consist of 13 historic built environment resources and one historic archaeological site within a quarter mile of the Project Area, and 18 historic built environment resources and two historic archaeological sites within a quarter- to a half-mile of the Project Area.

All of the sites dated to the historic period, and no prehistoric (i.e., Native American) cultural remains have been recorded in the vicinity of the Project Site.

The analysis in **Appendix C** evaluated the resources against federal and State historic criteria and determined that there are no "historical resources" as defined by CEQA that exist within or

adjacent to the Project Site. Therefore, there would be no potential impacts associated with an adverse change to a historical resource, and no mitigation would be required.

*b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

**Less Than Significant Impact with Mitigation Incorporated.** Archaeological sites represent the material remains of human occupation and activity either prior to European settlement (prehistoric sites) or after the arrival of Europeans (historical sites). No archaeological resources were determined present on the Project Site. The Project Site is assessed to have low sensitivity for buried prehistoric-aged cultural remains and low to moderately low sensitivity for buried historic-aged deposits. Due to the low sensitivity for buried prehistoric-aged cultural deposits and low to moderately low sensitivity for buried historic-aged deposits, no additional survey work is required at this time and no archaeological monitoring is recommended during ground disturbing activities.

While no archaeological resources were determined present on the Project Site, there is a possibility that intact archaeological deposits could be present at subsurface levels. For this reason, Mitigation Measure CR-1 (**MM CR-1**) would apply to the Proposed Project to manage unanticipated discoveries of archaeological and Native American resources in order to reduce potential impacts to a less than significant level.

*c) Disturb any human remains, including those interred outside of formal cemeteries?*

**Less than Significant Impact with Mitigation Incorporated.** Based on an analysis of records and archaeological survey of the property, it has been determined that the Project Site does not include a formal cemetery or any archaeological resources that might contain interred human remains. Mitigation Measure CR-2 (**MM CR-2**) would apply to the Proposed Project in the unlikely event that human remains are encountered during project development. With implementation of MM CR-2, potential impacts to unanticipated discovery of human remains will be reduced to a less than significant level.

## *Mitigation Measures*

**MM CR-1**

In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until a qualified archaeologist evaluates it.

If archaeological resources are encountered during ground-disturbing activities, all work shall cease in the area of the find or diverted away from discovery to a distance of 50 feet. The City shall be immediately informed of the discovery and a qualified archaeologist shall be retained by the applicant to determine if the find is classified as a significant historical resource pursuant to CEQA Guidelines Section 15064.5(a) and/or unique archaeological resources (Public Resources Code Section 21083.2[g]). A qualified archaeologist is an archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology. Personnel of the proposed project

shall not collect or move any archaeological materials or associated materials. The qualified archaeologist shall be empowered to halt or divert ground disturbing activities.

If the resource is classified as a significant cultural resource, the qualified archaeologist shall make recommendations on the treatment and disposition of the find. The final recommendations on the treatment and disposition of the find shall be developed in accordance with all applicable provisions of Public Resources Code Section 21083.2 and CEQA Guidelines Sections 15064.5 and 15126.4. The City shall review and approve the recommendations prior to implementation. The City shall be provided with a final report on the treatment and disposition of the finding prior to issuance of a Certificate of Occupancy.

**MM CR-2**

In the event that human remains (or remains that may be human) are discovered at the Project Site or within the off-site Project improvement areas during ground-disturbing activities, the construction contractors shall immediately stop all activities within 100 feet of the find. The Project proponent shall then inform the Riverside County Coroner and the City of Banning Planning Division immediately, and the coroner shall be permitted to examine the remains as required by California Health and Safety Code Section 7050.5(b).

If the coroner determines that the remains are of Native American origin, the coroner will notify the Native American Heritage Commission (NAHC), which will identify the "Most Likely Descendent" (MLD). The MLD shall be granted access to inspect the Project Site of the discovery of Native American human remains and may recommend to the Project proponent means for treatment or disposition, with appropriate dignity of the human remains and any associated grave goods. The MLD shall complete his or her inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the Project Site. The disposition of the remains will be determined in consultation between the Project proponent and the MLD. In the event that there is disagreement regarding the disposition of the remains, State law will apply and a mediation with the NAHC will make the applicable determination (see Public Resources Code Section 5097.98(e) and 5097.94(k)).

The specific locations of Native American burials and reburials will be proprietary and not disclosed to the general public. The locations will be documented by the consulting archaeologist in conjunction with the various stakeholders and a report of findings will be filed with the Eastern Information Center (EIC).

## *Conclusion*

Implementation of mitigation measures **MM CR-1** and **MM CR-2** would reduce potential impacts of the Proposed Project associated with Cultural Resources to less than significant levels.

## 4.6 Energy

Ganddini Group Inc. (Ganddini) performed an Air Quality, Global Climate Change, Health Risk Assessment and Energy Impact Analysis for the Proposed Project to assess potential impacts to air quality (**Appendix A** – *Brown Strauss Industrial Project Air Quality, Global Climate Change, HRA and Energy Impact Analysis*, Ganddini Group, November 29, 2023).

### *Regulatory Setting*

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the California Public Utilities Commission (CPUC) and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. A full list of relevant energy regulations is provided in the analysis in Appendix A. The discussion below provides a summary of key standards relative to this Project.

*Building Energy Efficiency Standards*

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were established in 1978 to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current 2022 Building Energy Efficiency Standards became effective on January 1, 2023. The core focus of the building standards has been efficiency, expanded solar standards, and the move to onsite energy storage that will help Californians save on utility bills while bolstering the grid.

The 2022 Energy Code update focuses on four key areas in new construction of homes and businesses:

- Encouraging electric heat pump technology and use, which consumes less energy and produces fewer emissions than traditional HVACs and water heaters.
- Establishing electric-ready requirements when natural gas is installed, which positions owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The 2019 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2020. The CALGreen Code is intended to reduce greenhouse gas emissions from buildings; promote environmentally responsible, cost-effective, healthier places to live and work; reduce energy and water consumption; and respond to the environmental directives of the State. The 2019 CALGreen Code includes mandatory measures for non-residential development related to site

development; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality.

## *Environmental Setting*

Energy use directly relates to environmental quality since it can adversely affect air quality and generate greenhouse gas emissions that contribute to climate change, especially through the combustion of fossil fuels. Electrical power is generated through a variety of sources, including fossil fuel combustion, hydropower, wind, solar, biofuels, and others. Natural gas is widely used to heat buildings, prepare food, and fuel vehicles. Transportation generally uses petroleum-based fuels, such as diesel and gasoline, and fuel consumption is related to the mode of transportation, vehicle fuel efficiency, and vehicle miles traveled. Construction and routine operation and maintenance of transportation infrastructure also consume energy.

California is one of the nation's leading energy-producing states and California's per capita energy use is among the nation's most efficient. California's estimated annual energy use as of 2022 included:

- Approximately 287,220 gigawatt hours of electricity
- Approximately 2,056,267 million cubic feet of natural gas
- Approximately 23.2 billion gallons of transportation fuel (for the year 2015)

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **VI. ENERGY:**<br>Would the project: | | | | |
| a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | | | X | |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | | | X | |

## *Discussion*

*a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

**Less Than Significant Impact.** The Proposed Project would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy

resources, during Project construction or operation. Information from the CalEEMod version 2022.1.1.20 output (Appendix A) was utilized to generate estimates of the Proposed Project's electricity, natural gas, and fuel consumption for construction and operational aspects of the Proposed Project. Project electricity would be provided by Banning Electric Utility (BEU). BEU is a not-for-profit, publicly owned retail electrical energy distribution utility with six distribution substations and 134 miles of power lines serving nearly 13,500 citizens and business patrons. As of 2022, BEU's energy comes from 81.3 percent renewable energy resources, of which biomass and waste is at 25 percent, geothermal is at 48.7 percent, and solar energy is at 7.6 percent; other energy sources include large hydroelectric at 0.9 percent, nuclear at 9.2 percent, and unspecified sources of power at 8.6 percent. Natural gas would be provided to the project by Southern California Gas (SoCalGas). Project-related vehicle trip energy consumption will be predominantly gasoline and diesel fuel. Gasoline (and other vehicle fuels) are commercially provided commodities and would be available to the patrons and employees of the Proposed Project via commercial outlets.

*Construction Energy*

Construction activities are anticipated to include grading, building construction, paving, and architectural coatings. Construction would also include the vehicles of construction workers and vendors traveling to and from the Project Site. The Proposed Project is anticipated to start construction no sooner than early July 2024 with completion estimated by the end of June 2025, and is anticipated to be operational in 2025.

Fuel consumed by construction equipment would be the primary energy resource expended over the course of project construction. The construction is anticipated to be completed in one phase. Project construction would represent a "single event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources once construction is completed. The Proposed Project's estimated energy consumption during construction is provided in Appendix A (Appendix A, Tables 17 through Table 21). In summary, the usage was estimated as follows:

- **Table 17:** Project Construction Power Cost and Electricity Usage: 13,798 kWh/year.
- **Table 18**: Construction Equipment Fuel Consumption Estimates: 40,299 gallons of diesel fuel.
- **Table 19**: Construction Worker Fuel Consumption Estimates: 3,848 gallons.
- **Table 20**: Construction Vendor Fuel Consumption Estimates (Medium Heavy-Duty and Heavy-Heavy Duty Trucks): 2,552 gallons.
- **Table 21**: Construction Hauling Fuel Consumption Estimates (Heavy Heavy-Duty Trucks): 0 gallons (No hauling trips by Heavy Heavy-Duty trucks are anticipated for the Proposed Project as there would be no demolition and construction would utilize medium heavy-duty trucks to transport materials)

Construction equipment used over the approximately twelve-month construction phase would conform to CARB regulations and California emissions standards. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the project would therefore not result in inefficient, wasteful, or unnecessary consumption of fuel.

The Proposed Project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with these measures would result in a more efficient use of construction-related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, as required by California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby minimizing or eliminating unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by County building officials, and/or in response to citizen complaints.

Therefore, potential impacts associated with wasteful, inefficient, or unnecessary consumption of energy resources during construction of the Proposed Project would be less than significant, and no mitigation would be required.

*Operations*

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the Project Site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

The Proposed Project is anticipated to generate 191 trips per day and consume an estimated 232,140 gallons of fuel per year for the operation of the Proposed Project (Appendix A, Table 22). Trip generation and VMT generated by the Proposed Project are consistent with other similar industrial uses of similar scale and configuration. That is, the Proposed Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. Furthermore, the state of California consumed approximately 4.2 billion gallons of diesel and 15.1 billion gallons of gasoline in 2015. The increase in fuel consumption from the Proposed Project is insignificant in comparison to the State's demand. Therefore, project transportation energy consumption would not be considered wasteful, inefficient, or otherwise unnecessary.

Building operation and site maintenance (including landscape maintenance) would result in the consumption of electricity (provided by BEU) and natural gas (provided by SoCalGas). The annual natural gas and electricity demands are provided in Table 23 of Appendix A. The estimated electricity demand for the Proposed Project is approximately 592,982 kWh per year. In 2022, the non-residential sector of the County of Riverside consumed approximately 8,720 million kWh of electricity. In addition, the estimated natural gas consumption for the Proposed Project is approximately 935,517 kBTU per year. In 2022, the non-residential sector of the County of Riverside consumed approximately 147 million therms of gas. Therefore, the increase in both electricity and natural gas demand from the Proposed Project is insignificant compared to the County's 2022 non-residential sector demand.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.). The Proposed Project would be required to comply with Title 24 standards.

Furthermore, the Proposed Project energy demands in total would be comparable to other non-residential projects of similar scale and configuration. Therefore, the project's energy demands and energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary, and no project-specific mitigation would be required.

*b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

**Less Than Significant Impact.** The Proposed Project would comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances in compliance with the State's Energy Plan and Title 24 CCR energy efficiency standards and energy efficiency programs implemented by BEU and SoCalGas.

An individual project does not have the ability to comply or conflict with Pavley (AB 1493) regulations because they are intended for agencies and their adoption of procedures and protocols for reporting and certifying GHG emission reductions from mobile sources. However, the vehicles associated with the Proposed Project would be required to comply with federal and state fuel efficiency standards.

The Proposed Project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CALGreen Standards require new buildings to reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

Therefore, the Proposed Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no mitigation would be required.

### *Mitigation Measures*

No mitigation measures associated with impacts to Energy apply to the Proposed Project.

### *Conclusion*

The energy impacts of the Proposed Project would be less than significant, and no Project-specific mitigation is required.

## 4.7 Geology and Soils

A geotechnical investigation was prepared for the Proposed Project to assess the potential geologic and soils impacts of the Proposed Project (**Appendix D -** G*eotechnical Investigation, Proposed Brown-Strauss Steel Facility, 1210 & 1431 West Lincoln Street, APN 540-180-020, 022 & 026, Banning, California,* Sladden Engineering, January 5, 2023).

A paleontological report was prepared to assess the potential for paleontological resources within the Proposed Project Site (**Appendix C -** *Cultural and Paleontological Resources Assessment Report for the Brown Strauss Industrial Project,* Cogstone, May 2023).

### *Environmental Setting*

*Regional Geologic Setting*

The Project is located in the northern ½ of the southwestern ¼ of Section 9 of Township 2 South, Range 1 East on the Beaumont USGS 7.5-minute topographic quadrangle map, San Bernardino Baseline and Meridian (**Figure 3**). The Project Site is located in the Peninsular Ranges Physiographic Province of California. The Peninsular Ranges are mountainous areas that extend from the western edge of the continental borderland to the Salton Trough and from the Transverse Ranges Physiographic Province in the north to the tip of Baja California in the south. The Peninsular Ranges Physiographic Province is characterized by northwest-trending topographic and structural features. The province is characterized by elongated, northwest-southeast trending mountain ranges and valleys and is truncated at its northern margin by the east-west trending Transverse Ranges. Mountainous areas of the Peninsular Ranges Physiographic Province generally consist of Igneous, metasedimentary and metavolcanic rocks. However, plutonic rocks of the Southern California Batholith are the dominant basement rock exposed (Jahns, 1954).

*Soils*

On site soils as identified by the US Department of Agriculture are identified in **Table 2 -** *On-Site Soils Classification* and are depicted in **Figure 11 –** *Soil Map.* The Project is mapped entirely as late Pleistocene (129,000 to 11,700 years ago) alluvial fan deposits of San Gorgonio Pass. (refer to Section 4.2 of this document).

*Liquefaction*

Liquefaction is a process whereby soil is temporarily transformed to fluid form during intense and prolonged ground shaking or because of a sudden shock or strain. The Geotechnical Investigation (**Appendix D**) identifies that the site is located within a "moderate" liquefaction potential zone according to Riverside County.

*Faulting*

According to the City of Banning General Plan Environmental Hazards Element, the City of Banning is located at the boundary, formed by the San Andreas Fault, between the North

American and Pacific plates. The San Andreas Fault crosses the Banning area. Furthermore, the San Andreas fault accommodates approximately 70% of the movement between the North American and Pacific tectonic plates, while the remaining motion is distributed between the Eastern Mojave Shear Zone and a number of the sub-parallel faults of the San Andreas fault, including the San Jacinto, Whittier–Elsinore, Newport-Inglewood, Palos Verdes, and other offshore faults. However, none of these faults are mapped on the site. In addition, no signs of active surface faulting were observed during review of non-stereo digitized photographs of the site and site vicinity.

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **VII. GEOLOGY AND SOILS:** Would the project: | | | | |
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| • Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | | | X | |
| • Strong seismic ground shaking? | | | X | |
| • Seismic-related ground failure, including liquefaction? | | | X | |
| • Landslides? | | | | X |
| b) Result in substantial soil erosion or the loss of topsoil? | | | X | |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- site or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | | | X | |

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | | | X | |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? | | | | X |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | | X | | |

## *Discussion*

*a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

- *Rupture of a known earthquake fault, as delineated on the most recent Alquist Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

**Less than Significant Impact.** Surface rupture is expected to occur along preexisting, known active fault traces. However, surface rupture could potentially splay or step from known active faults or rupture along unidentified traces. Based on review of Jennings (1994), CGS (2022) and Dibblee (2003), known faults are not mapped on the site. In addition, no signs of active surface faulting were observed during review of non-stereo digitized photographs of the site and site vicinity (Google, 2022). Finally, no signs of active surface rupture or secondary seismic effects (lateral spreading, lurching etc.) were identified on-site during field investigation. Therefore, potential impacts associated with adverse effects to people or structures from a surface rupture would be less than significant, and no mitigation would be required.

- *Strong seismic ground shaking?*

**Less than Significant Impact.** The Project Site is located in an active seismic zone and will likely experience strong seismic shaking during the design life of the Proposed Project. In general, the intensity of ground shaking will depend on several factors including: the distance to the earthquake focus, the earthquake magnitude, the response characteristics of the underlying materials, and the quality and type of construction. The Project Site has been subjected to past ground shaking by faults that traverse through the region. Strong seismic shaking from nearby

active faults is expected to produce strong seismic shaking during the design life of the Proposed Project. A site-specific approach determined the peak ground acceleration (PGAm) at the site to be 0.943g. The Proposed Project is required to be constructed consistent with all applicable seismic design standards contained in the 2022 California Building Code (CBC), including Section 1613- Earthquake Loads, which would reduce impacts reduce risks associated with seismic activity. Therefore, potential impacts associated with adverse effects to people or structures from a surface rupture would be less than significant, and no mitigation would be required.

- *Seismic related ground failure, including liquefaction?*

**Less than Significant Impact.** Liquefaction is the process in which loose, saturated granular soil loses strength as a result of cyclic loading. The strength loss is a result of a decrease in granular sand volume and a positive increase in pore pressures. Generally, liquefaction can occur if all of the following conditions apply; liquefaction-susceptible soil, groundwater within a depth of 50 feet or less, and strong seismic shaking. The Project Site is located within a "moderate" liquefaction potential zone (RCMMC, 2023). Based on the relatively dense nature of the underlying native earth materials and the depth to groundwater in the project vicinity, risks associated with liquefaction are considered "low". Therefore, potential impacts associated with adverse effects to people or structures from liquefaction shaking would be less than significant, and no mitigation would be required.

- *Landslides?*

**No Impact.** The site is situated on relatively level ground and is not immediately adjacent to any slopes or hillsides that could be potentially susceptible to slope instability. No signs of slope instability in the form of landslides, rock falls, earthflows or slumps were observed at or near the subject site during our investigation. As such, risks associated with slope instability should be considered "negligible". Therefore, no impacts to people or structures from landslides would occur, and no mitigation would be required.

*b) Result in substantial soil erosion or the loss of topsoil?*

**Less Than Significant Impact**. During Project construction when soils are exposed, temporary soil erosion may occur, which could be exacerbated by rainfall. To control the potential for soil erosion, wind, dust, and water quality impacts, the Proposed Project is required to comply with SCAQMD rules relating to dust control (such as SCAQMD Rule 403) and rules to protect water quality including preparing a Stormwater Pollution Prevention Plan (SWPPP) to be approved by the Regional Water Quality Control Board (RWQCB). Compliance with Federal, State, and Local regulations will ensure potential impacts are less than significant. Therefore, potential impacts associated with soil erosion, or the loss of topsoil would be less than significant, and no mitigation would be required.

*c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

**Less Than Significant Impact**. The Project is not identified as being located on a geologic unit or soil that has been identified as being unstable or having the potential to result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. A Soils Report was prepared for the Project and is included as **Appendix D**. The Soils Report concluded that the materials underlying the site are considered to have a "low" expansion potential for the most part and that the proposed infiltration system will not result in ground settlement that could affect structures, either on or adjacent to the site. Therefore, potential impacts associated with on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse would be less than significant, and no mitigation would be required.

*d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

**Less Than Significant Impact**. The Geotechnical Analysis in **Appendix D** identified that native soils at this site consists primarily of interbedded alluvial materials comprised of clayey sand (SC), sand (SP/SW) and silty sand (SM). Expansion Index testing of select samples was performed in order to evaluate the expansive potential of the materials underlying the site. Based on the results of our laboratory testing (EI = 12), the materials underlying the site are considered to have a "low" expansion potential. Expansion potential should be reevaluated after remedial grading. Project Site grading would occur according to the recommendations specified by the Proposed Project's Licensed Geotechnical Engineer and construct the development to the standards prescribed by the California Building Code (CBC), as amended by the City, which would reduce risks associated with expansive soils. Therefore, potential impacts associated with expansive soil that creates a substantial direct or indirect risk to life or property would be less than significant, and no mitigation would be required.

*e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

**No Impact.** The Proposed Project would not involve the installation of septic tanks or alternative wastewater disposal systems. Therefore, no impacts to soils associated with septic tanks or alternative wastewater disposal systems would occur, and no mitigation would be required.

*f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

**Less Than Significant Impact with Mitigation Incorporated.** A Cultural and Paleontological Resources Assessment for the Proposed Project was performed in May 2023 (**Appendix C**). The Project is mapped entirely as late Pleistocene (129,000 to 11,700 years ago) alluvial fan deposits of San Gorgonio Pass. The results of the record search showed that no fossils have previously

been recorded from the Proposed Project Area or from within a one-mile radius. However, abundant late Pleistocene fossils have been found in association with the Diamond Valley Lake and San Diego Pipeline 6 / Salt Creek Channel projects in southern Hemet, California, approximately 15 miles southwest of the current Project. Thousands of Pleistocene fossils have been recorded near the Project Area, including Pacific mastodon, Columbian mammoth, ground sloth, sabre-toothed cat, dire wolf, short-faced bear, bison, horse, stilt-legged llama, yesterday's camel, flat-headed peccary, diminutive pronghorn, and California turkey. Based upon recorded fossil locality data in and near the Project Area, areas mapped as alluvial fan deposits of San Gorgonio Pass are assigned a moderate sensitivity (PFYC 3). At present, based upon the potential for impacts to the late Pleistocene alluvial fan deposits of San Gorgonio Pass at depth within the Project Area, a Paleontological Resources Impact Mitigation Monitoring Plan (PRIMMP) should be developed and implemented, which should include development of a paleontology Worker Environmental Awareness Program (WEAP) as well as paleontological monitoring. In the event of an unanticipated paleontological discovery, all work must be suspended within 50 feet of the find until a qualified paleontologist evaluates it.

## *Mitigation Measures*

**MM GEO-1**

Prior to the issuance of grading permits, the Project proponent/developer shall submit to and receive approval from the City, a Paleontological Resource Impact Mitigation Monitoring Program (PRIMMP). The PRIMMP shall include the provision for a qualified professional paleontologist (or his or her trained paleontological representative) to be on-site for any Project-related excavations that exceed three (3) feet below the pre-grade surface. Selection of the paleontologist shall be subject to approval of the City of Banning Planning Manager and no grading activities shall occur at the Project Site or within the off-site Project improvement areas until the paleontologist has been approved by the City.

In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until a qualified paleontologist can evaluate the find and make recommendations. The approved paleontologist shall be prepared to quickly salvage fossils as they are unearthed to avoid construction delays. The paleontologist shall also remove samples of sediments which are likely to contain the remains of small fossil invertebrates and vertebrates. The paleontologist shall have the power to temporarily halt or divert grading equipment to allow for removal of abundant or large specimens.

Collected samples of sediments shall be washed to recover small invertebrate and vertebrate fossils. Recovered specimens shall be prepared so that they can be identified and permanently preserved. Specimens shall be identified and curated and placed into an accredited repository (such as the Western Science Center or the Riverside Metropolitan Museum) with permanent curation and retrievable storage.

A report of findings, including an itemized inventory of recovered specimens, shall be prepared upon completion of the steps outlined above. The report shall include a discussion of the significance of all recovered specimens. The report and inventory, when submitted to the City of Banning Planning Division, will signify completion of the program to mitigate impacts to paleontological resources.

**MM GEO-2**

Prior to the start of construction, a paleontological resources Worker Environmental Awareness Program (WEAP) training program shall be presented to all earthmoving personnel to inform them of the possibility for buried resources and the procedures to follow in the event of fossil discoveries.

## *Conclusion*

Implementation of mitigation measures **MM GEO-1** and **MM GEO-2** would reduce potential impacts of the Proposed Project associated with geological resources to less than significant levels.

## 4.8 Greenhouse Gas Emissions

Ganddini Group Inc. (Ganddini) performed an Air Quality, Global Climate Change, Health Risk Assessment and Energy Impact Analysis for the Proposed Project to assess potential impacts to air quality (**Appendix A** – *Brown Strauss Industrial Project Air Quality, Global Climate Change, HRA and Energy Impact Analysis*, Ganddini Group, November 29, 2023).

### *Regulatory Setting*

Since 1987, many countries around the world have tried to reduce atmospheric greenhouse gas (GHG) emissions since climate change is a global issue. Over the past 35 years, the United States, and the State of California, have enacted a myriad of regulations that have evolved over time aimed at reducing GHG emissions in transportation, building and manufacturing.

*South Coast Air Quality Management District*

The Project Site is within the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD Regulation XXVII currently includes three rules:

- The purpose of Rule 2700 is to define terms and post global warming potentials.
- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a Greenhouse Gas Reduction Program for greenhouse gas emission reductions in the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

For GHG emissions, there is not an established, universally agreed-upon "threshold of significance" by which to measure an impact. While the CARB published some draft thresholds in 2008, they were never adopted, and the CARB recommended that local air districts and lead agencies adopt their own thresholds for GHG impacts.

The SCAQMD has been evaluating significance thresholds for greenhouse gases since 2008. In December 2008, the SCAQMD adopted an interim screening level GHG threshold of 10,000 metric tons of $CO_2e$ ($MTCO_2e$) per year for stationary source/industrial projects for which the SCAQMD is the lead agency. However, the SCAQMD is not the lead agency for this project. Therefore, the five permit threshold tiers do not apply to the Proposed Project. The SCAQMD is in the process of preparing recommended significance thresholds for greenhouse gases for local lead agency consideration ("SCAQMD draft local agency threshold"); however, the SCAQMD Board has not approved the thresholds as of the date of the Notice of Preparation. The current draft thresholds consist of the following tiered approach:

| | |
|---|---|
| Tier 1 | Determine if the project qualifies for a categorical or statutory CEQA exemption. If not, move to Tier 2. |
| Tier 2 | Determine whether the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions. If not, move to Tier 3. |
| Tier 3 | Consider whether the project generates GHG emissions in excess of screening thresholds for individual uses, which the lead agency can choose, but must be consistent with all projects within the jurisdiction. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:<br>• All land use types: 3,000 MTCO2e per year<br>• Based on land use type: residential: 3,500 MTCO2e per year; commercial: 1,400 MTCO2e per year; or mixed use: 3,000 MTCO2e per year.<br>• Based on land type: Industrial (where SCAQMD is the lead agency), 10,000 MTCO2e per year. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4. |
| Tier 4 | Analyze the project using one of the following three methods:<br>• Option 1: Reduce emissions from business as usual by a certain percentage; this percentage is currently undefined<br>• Option 2: Early implementation of applicable AB 32 Scoping Plan measures<br>• Option 3: Year 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$/SP/year for projects and 6.6 $MTCO_2e$/SP/year for plans;<br>• Option 3: Year 2035 target: 3.0 $MTCO_2e$/SP/year for projects and 4.1 $MTCO_2e$/SP/year for plans<br>If a project generates emissions in excess of the applicable efficiency targets, move to Tier 5. |
| Tier 5 | Provide mitigation in the form of real, quantifiable, and verifiable offsets to achieve the target significance thresholds. |

The thresholds identified above have not been adopted by the SCAQMD nor distributed for widespread public review and comment, and the working group tasked with developing the thresholds has not met since September 2010. The future schedule and likelihood of threshold adoption is uncertain.

In the absence of other thresholds of significance promulgated by the SCAQMD, the City of Banning has been using the SCAQMD's 10,000 $MTCO_2e$ threshold for industrial projects and the draft thresholds for non-industrial projects the purpose of evaluating the GHG impacts associated with proposed general development projects. As stated above, SCAQMD staff were

proposing to recommend the 10,000 $MTCO_2e$/year threshold for industrial uses by all lead agencies. The City's use of the 10,000 $MTCO_2e$/year threshold is also considered to be conservative since it is being applied to all of the GHG emissions generated by the Project (i.e., area sources, energy sources, vehicular sources, solid waste sources, and water sources) whereas the SCAQMD's 10,000 $MTCO_2e$/year threshold applies only to the new stationary sources generated at industrial facilities. Therefore, a conservative baseline of 3,000 MTCO2e per year for all land uses has been used as the baseline to evaluate project impacts related to GHGs.

## *Environmental Setting*

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO2), methane (CH4), ozone, water vapor, nitrous oxide (N2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO2 and $N_2O$ are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO2, where CO2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean.

For the purposes of the Global Climate Change Analysis (Appendix A), the focus was on emissions of $CO_2$, $CH_4$, and $N_2O$ because these gasses are the primary contributors to global climate change from development projects. Although there are other substances such as fluorinated gases that also contribute to climate change, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **VIII. GREENHOUSE GAS EMISSIONS:** Would the project: | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | | | X | |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | | | X | |

## *Discussion*

*a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

**Less Than Significant.** The Proposed Project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste disposal, water usage, and construction equipment. GHG emissions have been calculated with the CalEEMod model based on construction and operational parameters (Appendix A). A summary of the results is shown below in **Table 7** – *Project Related Greenhouse Gas Emissions*.

**Table 7 – Project Related Greenhouse Gas Emissions**

| Category | Greenhouse Gas Emissions (Metric Tons/Year) | | | | | |
|---|---|---|---|---|---|---|
| | Bio-CO2 | NonBio-$CO_2$ | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2e$ |
| **Maximum Annual Operations** | 7.70 | 2,521.00 | 2,529.00 | 0.85 | 0.26 | 2,630.00 |
| **Construction**[1] | 0.00 | 8.57 | 8.57 | 0.00 | 0.00 | 8.63 |
| **Total Emissions** | 7.70 | 2,529.57 | 2,537.57 | 0.85 | 0.26 | 2,638.63 |
| **SCAQMD Draft Screening Threshold for All Land Uses** | | | | | | 3,000 |
| **Exceeds Threshold?** | | | | | | **No** |

Notes:
Source: CalEEMod Version 2022.1.1.20 for Opening Year 2023
i. Construction GHG emissions CO2e based on a 30-year amortization rate.

**Table 7** shows that the total for the Proposed Project's emissions (without credit for any reductions from sustainable design and/or regulatory requirements) would be 2,638.63 MTCO2e per year. According to the SCAQMD draft threshold of significance established above, a cumulative global climate change impact would occur if the GHG emissions created from the

on-going operations of the Proposed Project would exceed the SCAQMD draft screening threshold of 3,000 MTCO2e per year for all land uses. Therefore, potential impacts associated with the generation of greenhouse gas emissions would be less than significant. This threshold is also significantly below the recommended screening threshold of 10,000 MTCO2e per year for Industrial uses. As such, no additional project-specific mitigation would be required.

*b) Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

**Less Than Significant.** There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is AB 32, which focuses on reducing GHG emissions in California to 1990 levels by 2020. This goal is further supplemented by SB 32 and Executive Order B-30-15, which established a reduction target of at least 40 percent below 1990 emissions by 2030, and Executive Order S-3-05, which established a reduction target of at least 80 percent below 1990 emissions by 2050.

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020. The City of Banning does not currently have a Climate Action Plan; therefore, the project has been compared to the goals of the CARB Scoping Plan. The CARB Board approved a Climate Change Scoping Plan in December 2008 and updated the plan in 2014, approved a new Climate Change Scoping Plan in 2017, and the most recent Climate Change Scoping Plan in 2022. As the latest, 2022 Scoping Plan builds upon previous versions, project consistency with applicable strategies of the 2008, 2017, and 2022 Plan are assessed in **Table 8** – *Project Consistency with CARB Scoping Plan Policies and Measures*. As shown below, the project is consistent with the applicable strategies within the Scoping Plan.

**Table 8 – Project Consistency with CARB Scoping Plan Policies and Measures**

| 2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions | Project Compliance with Measure |
|---|---|
| California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero- emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California. | No Conflict. The project will be compliant with the current Title 24 standards. |
| No Conflict. The project will be compliant with the current Title 24 standards. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the |

| | |
|---|---|
| | strategy. |
| Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. | No Conflict. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. In addition, the 2022 edition of the Code took effect January 1, 2023. The project will be subject to these mandatory standards. |
| High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases. | No Conflict. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures will comply with the strategy. |
| Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero waste. | Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero waste. |
| Water – Continue efficiency programs and use cleaner energy sources to move and treat water. | No Conflict. The project will comply with all applicable City ordinances and CAL Green requirements. |
| **2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions** | **Project Compliance with Recommended Action** |
| Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |

| | |
|---|---|
| Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030. | Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030. |
| By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383. | No Conflict. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341. |
| **2022 Scoping Plan Priority Key Actions and Recommendations** | **Project Compliance with Recommended Actions** |
| 100 percent of light-duty vehicle sales are ZEVs by 2035. | Not Applicable. This action is in regard to vehicle sales, with an aim to have 100 percent of light-duty vehicle sales be ZEVs by 2035. The Proposed Project is a steel manufacturing and distribution use and would not interfere with such policymaking. |
| VMT per capita reduced 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045. | No Conflict. The Project would not result in an unmitigated impact to VMT. The Project is a steel manufacturing and distribution use located in close proximity to existing roadways and residential and commercial uses. Therefore, the Project would be anticipated to contribute to a reduction in VMT per capita. |
| All electric appliances in new construction beginning 2026 (residential) and 2029 (commercial). | No Conflict. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. |

| | |
|---|---|
| | Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. In addition, the 2022 edition of the Code took effect January 1, 2023. The project will be subject to these mandatory standards. |
| For existing residential buildings, 80 percent of appliance sales are electric by 2030 and 100 percent of appliance sales are electric by 2035 (appliances replaced at end of life). For existing commercial buildings, 80 percent of appliance sales are electric by 2030 and 100 percent of appliance sales are electric by 2045 (appliances replaced at end of life) | Not Applicable. This action is in regard to appliance sales and the Proposed Project is a hotel use with rooftop restaurant and would not interfere with such policymaking. Furthermore, although this action is not necessarily applicable on a project-specific basis, the Proposed Project is subject to the California Green Building Standards Code (proposed Part 11, Title 24) which was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. In addition, the 2022 edition of the Code took effect January 1, 2023. The project will be subject to these mandatory standards. |

The project would not conflict with the goals of AB-32, SB-32, or the CARB Scoping Plan; therefore, the project would not conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases and impacts are considered to be less than significant, and no mitigation would be required.

## *Mitigation Measures*

No mitigation measures associated with impacts to Greenhouse Gas Emissions apply to the Proposed Project.

## *Conclusion*

The Proposed Project is consistent with the goals and objectives of AB 32, SB-32, the CARB Scoping Plan and the SCAQMD's 3,000 $MTCO_2e$ per year threshold for all land uses. Therefore, the Proposed Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. The Greenhouse Gas Emissions impacts of the Proposed Project would be less than significant, and no Project-specific mitigation would be required.

## 4.9 Hazards and Hazardous Materials

Terracon Consultants, Inc. prepared a Phase I Environmental Site Assessment (Phase I ESA) to determine potential impacts from hazardous materials associated with the development of the Proposed Project (**Appendix E** - *Phase I Environmental Site Assessment Report, Banning Industrial*, Terracon Consultants, Inc., September 1, 2022).

Ganddini Group prepared a Noise Impact Analysis was also completed to determine potential impacts of noise in relation to the proximity of the Banning Municipal Airport (**Appendix I** - *Brown Strauss Industrial Project, Noise Impact Analysis, City of Banning*, Ganddini Group, December 5, 2023).

### *Regulatory Setting*

The City of Banning has a Hazardous Response Area Plan that was developed as part of its requirements as a participating agency in the statewide Certified Uniform Program Administration. The agency responsible for insuring that the Hazardous Response Plan addresses hazardous and toxic materials is the County of Riverside Health Hazardous Materials Division and/or the Regional Water Quality Control Board. (City of Banning General Plan, 2004).

### *Environmental Setting*

A hazardous material is a substance that is toxic, flammable/ignitable, reactive, or corrosive. Extremely hazardous materials are substances that show high or chronic toxicity, carcinogenic, bio accumulative properties, persistence in the environment, or that are water reactive. Improper use, storage, transport, and disposal of hazardous materials and waste may result in harm to humans, surface and groundwater degradation, air pollution, fire, and explosion.

Typical equipment which may contain fuel or hydraulic oil that may be used during construction could include graders, loaders, dozers, cranes, forklift/pallet jack, and jackhammers.

*Banning Municipal Airport*

The Project Site is approximately 1.9 miles west of the Banning Municipal Airport. According to the Banning Municipal *Airport Land Use Compatibility Plan* (ALUCP) (**Appendix F**), the easternmost parcel (APN 540-180-20) of the Project Site is within Compatibility Zone D (**Figure 12** – Banning Municipal Airport Compatibility Map). Exhibit V-6 of the Environmental Hazards Element of the City's General Plan shows that the Project Site outside of the airport's 65 dBA CNEL noise contour.

*Project Site*

The Project Site consists of three contiguous parcels of generally vacant land, totaling approximately 14.92-acres. No evidence of the use of reportable quantities of hazardous substances was observed on the Project Site. No evidence of aboveground storage tanks (ASTs) or underground storage tanks (USTs) such as fill ports, piping, or vent pipes was observed or reported on the Project Site.

Historically, the site has been used for agricultural activities (orchards), from at least 1938 until sometime between 1953 and 1961. Based on the 2002 aerial photograph, apparent containers/trailers were visible throughout the site. By 2006, the containers/trailers appeared to have been removed; however, an apparent container/trailer was visible in the 2016 aerial photograph. Based on the 2012 aerial photograph, an apparent water tank and small animal enclosure were visible on the southwestern portion of the site. Currently, the container/trailer had been removed from the site, and site appeared generally vacant.

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **IX. HAZARDS AND HAZARDOUS MATERIALS:** Would the project: | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | | | X | |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | | | X | |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | | | | X |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard or excessive noise to the public or the environment? | | | | X |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | | | X | |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | | | X | |

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires? | | | | X |

## *Discussion*

*a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

**Less than Significant Impact.** Construction of the Proposed Project would involve the use of construction-related chemicals. These include but are not limited to hydraulic fluids, motor oil, grease, runoff, and other related fluids and lubricants. The construction activities would involve the disposal and recycling of materials, trash, and debris.

With mandatory regulatory compliance with federal, State, and local laws, potential impacts associated with hazardous materials would be less than significant, and no mitigation would be required.

*b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

**Less than Significant Impact.** Construction and operation of the Proposed Project would involve the routine transport, use, or disposal of hazardous materials on- and off-site.

Construction Impacts

Construction activities would require the temporary use of hazardous substances, such as fuel, lubricants, and other petroleum-based products for operation of construction equipment as well as oil, solvents, or paints. As a result, the Proposed Project could result in the exposure of persons and/or the environment to an adverse environmental impact due to the accidental release of a hazardous material. However, the transportation, use, and handling of hazardous materials would be temporary and would coincide with the short-term Project construction activities. These materials would be handled and stored in compliance with all applicable federal, state, and local requirements. Any handling of hazardous materials would be limited to the quantities and concentrations set forth by the manufacturer and/or applicable regulations. All hazardous materials would be securely stored in a construction staging area or similar designated location within the Project Site. The handling, transport, use, and disposal of hazardous materials must comply with all applicable federal, state, and local agencies and regulations, including the Department of Toxic Substances Control; Occupational Health and

Safety Administration (OSHA); Caltrans; and the County Health Department - Hazardous Materials Management Services.

With the compliance with local, State, and federal regulations, short-term construction impacts associated with the handling, transport, use, and disposal of hazardous materials would be less than significant, and no mitigation would be required.

Operations Impacts

The Applicant is primarily a distributor, buying structural steel products in bulk quantities from the steel mills and selling the same products in smaller quantities to steel fabricators. The proposed operation does not include a steel mill or foundry. The only manufacturing activity to be performed on-site is to cut products to length within the enclosed saw sheds on the north side of the building. Less than 10% of customer orders are cut to length. A small above-ground fuel storage tank will also be located at the southeast corner of the warehouse, to be used for fueling on-site forklifts only. None of the proposed land uses are typically considered hazardous to the public. Hazardous materials would be limited to private use of commercially available cleaning products, landscaping chemicals and fertilizers, vegetable-based saw lubricant, and various other commercially available substances. These substances are required to comply with guidelines to minimize health risk to the public associated with hazardous materials. Therefore, potential impacts associated with the routine transport, use or disposal of hazardous materials would be less than significant, and no mitigation would be required.

*c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

**No Impact.** The Proposed Project Site is not located within one-quarter mile of an existing or proposed school. The closest school is Hemmerling Elementary School which is approximately 0.35-mile northwest of the Proposed Project Site. Since there are no schools within one-quarter mile of the Project Site, no impacts would occur, and no mitigation would be required.

*d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

**No Impact.** Government Code Section 65962.5(a)(1) requires that the Department of Toxic Substance Control (DTSC) "shall compile and update as appropriate, but at least annually, and shall submit to the Secretary for Environmental Protection, a list of all the following: (1) all hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code ("HSC")." The hazardous waste facilities identified in HSC § 25187.5 are those where DTSC has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment. This is known as the "Cortese List." This is a very small

and specific subgroup of facilities, and they are not separately posted on the DTSC or Cal/EPA's website. A complete list of all State and Tribal databases reviewed is provided in Appendix E.

Based on the results of the database review the Project Site is not located on any site that has been identified in accordance with Section 65962.5 of the Government Code.

A Phase 1 ESA was performed for the Proposed Project in accordance with ASTM Standard Practice CFR Part E152 13 and the EPA Standards and Practices for All Appropriate Inquiries (Appendix E). The assessment identified that although the historical use was agriculture with the potential for pesticide and herbicide use, there was no evidence of Recognized Environmental Condition (RECs) or Controlled RECs (CRECs) on the Project Site based on records searches and the field survey.

Therefore, based on the results of the Phase I ESA and that the Proposed Project is required to follow all state, federal, and local regulations, potential impacts associated with a reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment is less than significant, and no mitigation would be required.

*e) For a project located within an airport land use plan or, where such a plan had not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

**Less Than Significant Impact.** The Project Site is approximately 1.9 miles to the west of the Banning Municipal Airport. The Banning Municipal Airport Compatibility Plan divides the area close to the airport into zones based on proximity to the airport and perceived risks. The Banning Municipal Airport Compatibility Plan indicates the allowable uses, potential noise impacts, potential safety impacts, and density/intensity restrictions for each zone. The Project Site is within Compatibility Zone D (**Figure 12**) and will comply with the all the applicable ALUC requirements and received approval from the Riverside Airport Land Use Commission on October 5, 2023 (**Appendix F**).

Zone D is on the periphery of the flight corridors and the risk level from flight operations is low. According to the County of Riverside Airport County Wide Policies, Zone D, in the flight corridor buffer, has an average intensity of 100 people per acre, single intensity of 300 people per acre, and 10% open space requirements. According to Table 2A of County of Riverside Airport County Wide Policies, Basic Compatibility Criteria: Zone D in which the Project lies requires Airspace review for objects taller than seventy (70) feet. The Proposed Project consists of the development of a 36'-4" warehouse building; therefore, no obstruction evaluation is required.

Exhibit V-6 of the Environmental Hazards Element of the City's General Plan shows that the Project Site outside of the airport's 65 dBA CNEL noise contour. Additionally, Banning Municipal Airport Compatibility Plan, Noise Compatibility Contours Figure also shows that the Project Site is located outside of the airport's 65 dBA CNEL noise contour.

Therefore, potential impacts associated with the safety hazard or excessive noise for people residing or working in the project area would be less than significant, and no mitigation would be required.

*f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

**Less Than Significant Impact.** Development of the Project Site would not interfere with any of the daily operations of the City of Banning Emergency Operation Center, Riverside County Fire Department, or City of Banning Police Department. Vehicular access to the Project Site would be provided via four driveway access points off of W. Lincoln Street consisting of two one-way gated driveways at opposite ends of the Project Site for truck and fire safety access. Emergency response and evacuation for the City are based on numerous access routes. The Proposed Project would not interfere with the City's emergency operations plan or impede roadway access through removal or closure of any streets that provide through access. All construction activities would be required to be performed according to the standards and regulations of the City and county fire and sheriff's departments. For example, the Property Owner/Developer and its construction contractor would be required to provide on- and offsite access and circulation for emergency vehicles and services during the construction and operation phases.

The Proposed Project would also be required to undergo the City's development review and permitting process and would be required to incorporate all applicable design and safety standards and regulations of the Riverside County Fire Department to ensure that the Proposed Project does not interfere with the provision of local emergency services (e.g., provision of adequate access roads to accommodate emergency response vehicles, adequate numbers/locations of fire hydrants).

Overall, the Proposed Project would not impair implementation of or physically interfere with the City of Perris's emergency operations plan or evacuation plan. Therefore, no impacts associated with an adopted emergency response plan or emergency evacuation plan would occur, and no mitigation would be required.

*g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

**No Impact.** Wildfires typically pose minimal threat to people and buildings in urban areas but increasing human encroachment into natural areas increases the likelihood of bodily harm or structural damage. This encroachment occurs in areas called the wildland-urban interface (WUI), which is considered an area within the high and very high fire hazard severity zone, as defined by Cal FIRE. According to the Environmental Hazard Element of the City's General Plan, Wildfire Hazards map shows that the Project Site is not located in a Very High Fire Hazard Severity Zone. Therefore, no impacts associated with wildland fires would occur and no mitigation would be required.

## *Mitigation Measures*

No mitigation measures associated with impacts to Hazards and Hazardous Materials apply to the Proposed Project.

## *Conclusion*

There will be no impacts of the Proposed Project associated with Hazards and Hazardous Materials, and no mitigation would be required.

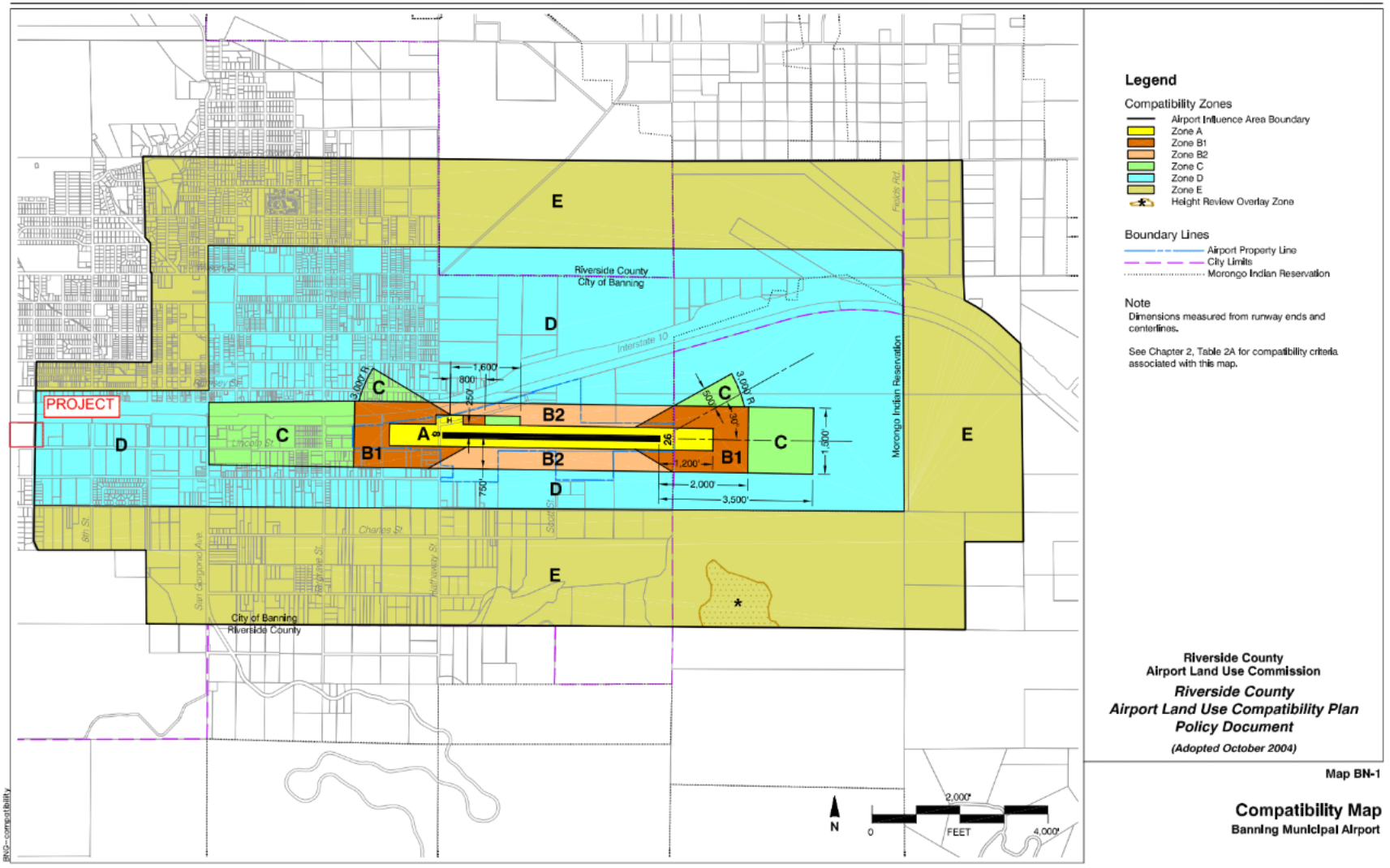



Figure 12: Banning Municipal Airport Compatibility Map

Source: *Riverside County Airport Land Use Commission (ALUC)*

## 4.10 Hydrology and Water Quality

Joseph E. Bonadiman & Associates, Inc. prepared a Preliminary Project Specific Water Quality Management Plan (PWQMP) (**Appendix G** – *Preliminary Project Specific Water Quality Management Plan, Brown Strauss Steel--Banning*, Joseph E. Bonadiman & Associates, Inc., March 8, 2023, Revised October 2023) and Preliminary Hydrology Study and Drainage Analysis (**Appendix H** – *Preliminary Hydrology Study and Drainage Analysis- Brown Strauss Steel*, Joseph E. Bonadiman & Associates, Inc., November 2023) to determine potential impacts to hydrology and water quality associated with the development of the Proposed Project.

### *Regulatory Setting*

The Colorado River Basin Regional Water Quality Control Board requires that dischargers whose construction projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer (QSD).

The State's Municipal Storm Water Permitting Program regulates stormwater discharges from municipal separate storm sewer (drain) systems (MS4s). Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. The MS4 permits require the discharger to develop and implement a storm water management plan/program with the goal of reducing the discharge of pollutants to the "maximum extent practicable," which is the performance standard specified in Section 402(p) of the Clean Water Act. The management programs specify which BMPs will be used to address certain program areas. The program areas include public education and outreach, illicit discharge detection and elimination, construction and post-construction, and good housekeeping for municipal operations.

The Riverside County Flood Control and Water Conservation District, the County of Riverside, the City of Banning, and other incorporated cities (co-permittees) discharge pollutants from their MS4s. Stormwater and non-stormwater enter and are conveyed through the MS4 and discharged to surface water bodies of the Riverside County region. These discharges are regulated under countywide waste discharge requirements per Order No. R8-2010-0033, NPDES Permit No. CAS618033, approved by the Colorado River Basin RWQCB on January 29, 2010. The MS4 permit requires the development and implementation of a program addressing stormwater pollution issues in development planning for private projects. The primary objectives of the municipal stormwater program requirements are to: 1) effectively prohibit non-stormwater discharges, and 2) reduce the discharge of pollutants from stormwater conveyance systems to the "maximum extent practicable" statutory standard.

## *Environmental Setting*

Floodplains

The Project Site does not contain any natural drainages or waterways (**Appendix B**). The Flood Insurance Rate Maps issued by the Federal Emergency Management Agency (FEMA) indicate the Project Site is in Zone X, which is an area of moderate and minimal flood risk. Zone X signifies areas subject to flooding in the event of a 500-year flood, areas of a 100- year sheet flow flooding with average depths of less than one foot, areas of a 100-year stream flood with contributing drainage areas less than one square mile, and areas protected from a 100-year flood by levees.

Groundwater

The City of Banning Public Works and Utilities Department provides domestic water services to the Project Site. The City's water service area comprises 100 percent of the population residing within the City limits, and a small unincorporated area of Riverside County. The City's Water Service Area comprises about 16,908 acres or 26.4 square miles. The City owns and operates wells, reservoirs, and a distribution line system to deliver domestic water within their service area. The distribution line system serving the City consists of water lines ranging from 2" to 30" in diameter. The 2020 Urban Water Management Plan (UWMP) for the City of Banning has been prepared in compliance with the Urban Water Management Planning Act (Act), which was established in 1983 and has been codified into the California Water Code sections 10610 through 10657.

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **X. HYDROLOGY AND WATER QUALITY:** Would the project: | | | | |
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? | | | X | |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | | | X | |

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would: | | | | |
| • result in substantial erosion or siltation onsite or offsite; | | | X | |
| • substantially increase the rate or amount of surface water runoff in a manner which would result in flooding on or offsite; | | | X | |
| • create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or | | | X | |
| • impede or redirect flood flows? | | | | X |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | | | | X |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | | | X | |

## *Discussion*

*a) Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?*

**Less Than Significant Impact.**

Construction Impacts

Construction-related runoff pollutants are typically generated from waste and hazardous materials handling or storage areas, outdoor work areas, material storage areas, and general maintenance areas (e.g., vehicle or equipment fueling and maintenance, including washing). Construction projects that disturb 1 acre or more of soil, including the Proposed Project, are

regulated under the construction general permit (CGP, Order No. 2009-009-DWQ) and its subsequent revisions (Order No. 2012-0006-DWQ) issued by the SWRCB. Projects obtain coverage under the CGP by developing and implementing a SWPPP, estimating sediment risk from construction activities to receiving waters, and specifying best management practices that would be implemented as a part of the Proposed Project's construction phase to minimize pollution of stormwater prior to and during grading and construction.

The Property Owner/Developer and its construction contractor would be required to prepare and implement a SWPPP and associated BMPs in compliance with the CGP during grading and construction. The SWPPP would specify BMPs that would be implemented for the Proposed Project to protect the water quality of receiving waters (San Gorgonio River, Whitewater River, Coachella Valley Storm Channel, and Salton Sea). Other construction BMPs that may be incorporated into the Proposed Project's SWPPP and implemented during the construction phase include but are not limited to:

- Installation of perimeter silt fences and perimeter sandbags and/or gravel bags
- Stabilized construction exits with rumble strip(s)/plate(s)
- Installation of storm drain inlet protection on affected roadways
- Installation of silt fences around stockpile and covering of stockpiles
- Stabilization of disturbed areas where construction ceases for a determined period of time (e.g., one week) with erosion controls
- Installation of temporary sanitary facilities and dumpsters

Adherence to the BMPs in the SWPPP would reduce, prevent, minimize, and/or treat pollutants and prevent degradation of downstream receiving waters; reduce or avoid contamination of urban runoff with sediment; and reduce or avoid contamination with other pollutants such as trash and debris, oil, grease, fuels, and other toxic chemicals.

Furthermore, Chapter 17.24 (Stormwater Management System) of the City's municipal code regulates grading and construction activities as they relate to stormwater pollution. Any person engaged in development, grading, or construction within the City shall comply with City of Banning Ordinance No. 1388, including regulations for construction sites and onsite storage and infiltration of stormwater, the standard specifications for public works construction when performing public works, and applicable provisions of the National Pollutant Discharge Elimination System CGP for stormwater discharges associated with construction activity issued by the SWRCB and California RWQCB, NPDES No. CAS 618033, Order No. R8-2002-0011.

Therefore, with implementation of the BMPs in the required SWPPP, water quality or waste-discharge impacts from Project-related grading and construction activities would be less than significant, and no mitigation would be required.

Operations Impacts

The Preliminary Water Quality Management Plan (**Appendix G**) identifies stormwater management for post construction building operations. Overall, the existing drainage patterns were identified, and the design preserves the overall drainage pattern. In the existing condition, the Project Site consists of open, undeveloped space that is generally flat and slopes to the southeast towards Lincoln Street, where flow continues to the east. To the north of the Project Site is the Union Pacific railroad, consisting of a limited drainage tributary with elevated tracks on earthen berms, running east/west. Flows originating along the south of the Union Pacific railroad berms are carried to the east via existing earthen swales within the railroad right-of-way.

In the post-Project condition, significant onsite grading will level the Project Site to facilitate the outdoor material storage for the streel distribution facility. The office parking lot and entry and exit driveways to the site shall be paved, while the balance of the outdoor storage area shall have gravel groundcover. The Proposed Project is required to retain urban runoff onsite in conformance with the City of Banning's WQMP guidance document, "Local Land Use Authorities Requiring Onsite Retention of Stormwater" as incorporated in Section 6 of City of Banning Ordinance No. 1415. The PWQMP divides the Project Site into four treatment areas, DA-1 through DA-4. The stormwater runoff from areas DA-1, 2, and 3 will be routed via vortex separators to an underground stormwater retention basin at the southeast portion of the Project Site. The retention basin is sized to contain the WQMP volume and the developed condition hydrograph volumes for a 100-yr, 3-hr storm event, equaling 1.9698 ac ft (85,804 cu ft) of water. Additional volume to buffer the difference between the existing condition and the developed condition hydrograph is also provided resulting in a total basin capacity of 2.9640 ac ft (129,110 cu ft) of water. The retention basin will use perforated pipe to filter and infiltrate captured stormwater. Area DA-4 consists of the landscaped berm at the south side of the Project Site along W. Lincoln Street. This area is self-infiltrating and also provides a barrier to capture incidental stormwater runoff from the rest of the property. Where applicable, runoff from the proposed hardscape areas, such as the parking lot, will be directed toward landscape area in an effort to promote incidental infiltration and preserve the infiltration capacity. Additionally, roof runoff through downspouts will be directed to proposed landscape areas where feasible to help slow down the storm water runoff.

Therefore, with implementation of the BMPs in the PWQMP and compliance with NPDES MS4 permit requirements, potential impacts associated with water quality and waste-discharge impacts would be less than significant, and no mitigation would be required.

*b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

**Less Than Significant Impact.** The Project Site is in the San Gorgonio Pass Subbasin portion of the Coachella Valley Groundwater Basin and within the jurisdiction of the Colorado River Basin Regional Water Quality Control Board. According to the 2020 UWMP, the City is a member of

multiple cooperative agreements to insure the reliability and quality of the water supply, which comes 100% from groundwater sources in the region.

The Proposed Project involves grading and paving of a 14.27 acres vacant site, thereby increasing impervious surfaces on the Project Site. The PWQMP prepared for the Proposed Project identifies that all runoff will be captured onsite and sent to an underground retention basin for infiltration. Additionally, the landscape areas along W. Lincoln Street will help retain stormwater runoff during storm events and gradually release it back into the ground and the City's storm drain system. The Proposed Project would not interfere with groundwater recharge and would beneficially retain water to ensure more groundwater recharge. Therefore, potential impacts associated with groundwater supplies or groundwater recharge would be less than significant, and no mitigation would be required.

*c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:*

- *result in substantial erosion or siltation onsite or offsite;*

**Less Than Significant Impact:** Grading activities during construction of the Proposed Project may result in wind driven soil erosion and loss of topsoil. All construction and grading activities would comply with City's grading ordinance using BMPs, including the use storm drain inlet protection, efficient irrigation systems and landscape design, and common area litter control. Upon completion, the Project Site would be developed with ad office and non-refrigerated warehouse and associated outdoor storage yard that would include paved and gravel surfaces and landscaping that would prevent substantial erosion from occurring. Therefore, potential impacts associated with erosion would be less than significant, and no mitigation would be required.

- *substantially increase the rate or amount of surface water runoff in a manner which would result in flooding on or offsite;*

**Less Than Significant Impact:** The Proposed Project will alter the existing drainage pattern of the Project Site. The existing drainage pattern flows generally southeast across the Project Site towards to public right-of-way, where it discharges and flows east. However, in the post-Project condition, significant onsite grading will level the Project Site to facilitate the outdoor material storage for the streel distribution facility and all onsite runoff will be required to be retained onsite and infiltrated through an underground retention basin at the southeast corner of the Project Site.

Therefore, the Proposed Project would not increase the runoff from the Project Site because all onsite runoff will be captured and will then be directed toward the proposed underground storage chambers. The storage chambers ensure that the capacity of the City's storm drain system is not exceeded by the development of the Proposed Project.

Therefore, potential impacts associated with on or off-site flooding due to an altered drainage pattern would be less than significant, and no mitigation would be required.

- *create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or*

**Less Than Significant:** The Proposed Project will alter the drainage pattern of the Project Site but will not increase flow rates from the existing condition. The Proposed Project includes a drainage system that would be designed and installed to temporarily store and infiltrate runoff, primarily from rooftops and other impervious surface area (**Appendix G**). Non-structural BMPs such as activity restrictions, common area landscape maintenance, and litter control would also contribute toward runoff control and water quality protection. In addition, the Property Owner/Developer would be required to comply with the NPDES permit requirements to reduce any potential water quality impacts.

Therefore, potential impacts associated with runoff that would exceed the capacity of the drainage systems or provide additional sources of polluted runoff would be less than significant, and no mitigation would be required.

- *impede or redirect flood flows?*

**No Impact:** The Project Site is in Flood Zone X, outside of the 100-year floodplain (FEMA Map 06065C0817G, effective date August 28, 2008). Therefore, no impacts associated with impeding or redirecting flood flows would occur, and no mitigation would be required.

*d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

**No Impact.** The Project Site is in Flood Zone X, outside of the 100-year floodplain (FEMA Map 06065C0817G) and would not impede or redirect flood flows.

The Project Site is inland, more than 50 miles northeast of the Pacific Ocean, and is not subject to tsunami hazards.

Seiches are surface waves created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to development near large water bodies and water storage facilities, because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water. Within portions of the northern and southern Banning planning area, there are percolation ponds and man-made lakes, such as those within the Sun Lakes development area, which may be subject to seiches. At present, there are no open reservoirs in the City of Banning.

The surrounding topography of the Project Site is generally flat and would not be subject to inundation by mudflow.

Therefore, the Project because the Project Site is not in a flood, tsunami, or seiche zone, and there would be no Project impacts as to the risk release of pollutants due to project inundation, and no mitigation is required.

*e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

**Less Than Significant Impact.** The Proposed Project's construction contractor would be required to prepare and implement a SWPPP and associated BMPs in compliance with the Conceptual Grading Plan during grading and construction. The SWPPP would specify BMPs that would be implemented for the Proposed Project to protect the water quality of receiving waters (San Gorgonio River, Whitewater River, Coachella Valley Storm Channel, and Salton Sea). Therefore, the Proposed Project will not interfere with the implementation of a water quality control plan.

The City works cooperatively with the cities within its service area to plan for future water supply as outlined in the most recent UWMP, adopted in 2020. Therefore, the Proposed Project will not conflict or obstruct a sustainable groundwater management plan. No aspect of the Proposed Project involves groundwater wells or groundwater pumping.

Therefore, potential impacts associated with the implementation of a water quality control plan or sustainable groundwater management plan would be less than significant, and no mitigation would be required.

## *Mitigation Measures*

No mitigation measures associated with impacts to Hydrology and Water Quality apply to the Proposed Project.

## *Conclusion*

Potential impacts of the Proposed Project associated with Hydrology and Water Quality would be less than significant, and no mitigation would be required.

## 4.11 Land Use Planning

### *Environmental Setting*

The Proposed Project Site is situated on north side of W Lincoln Street, south of Redlands Freeway (I-10) and Union Pacific Railroad Corridor, west of South 8th Street, East of South 22ndStreet, and specifically within Assessor's Parcel Numbers (APNs 540-180-020, 540-180-022, and 540-180-026) and is known as site address,1219 and 1431 W. Lincoln Street. The Proposed Project would be constructed on three vacant parcels totaling approximately 14.92 acres which will be consolidated into one parcel. The Project Site is split between General Commercial (GC) (APN 540-180-022) and Industrial (I) (APN 540-180-020 and-026) zoning and General Plan designations. Parcel No.540-180-022 is currently zoned General Commercial (GC) and will be rezoned to Industrial (I) for consistency with other lots within the Project Site. The Project Site is bounded by Union Pacific railroad track to the north, industrial warehouses to the east, a mix of currently vacant and non-conforming rural residential parcels to the south across W Lincoln Street, and a vacant land to the west.

### *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **XI. LAND USE AND PLANNING:** Would the project: | | | | |
| a) Physically divide an established community? | | | X | |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | | | | X |

### *Discussion*

*a) Would the project physically divide an established community?*

**Less Than Significant Impact.** The Project Site is bounded by Union Pacific railroad track to the north, industrial warehouses to the east, a mix of currently vacant and non-conforming rural residential parcels to the south across W Lincoln Street, and a vacant land to the west. The Proposed Project will be consistent and compatible with existing and proposed industrial development in areas planned for those uses. The Proposed Project is consistent with the surrounding zoning designation. Therefore, no impacts associated with the division of an established community would occur, and no mitigation would be required.

*b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

**No Impact.** The Proposed Project involves the request to construct a 42,510 SF warehouse, a 3,434 SF administrative office, two 500 SF enclosed saw sheds, an outdoor storage yard, and associated parking and landscaping. The Proposed Project would be constructed on three vacant parcels which will be consolidated into one parcel. The Project Site is split between General Commercial (GC) (APN 540-180-022) and Industrial (I) (APN 540-180-020 and-026) zoning and General Plan designations. Parcel No. 540-180-022 is currently zoned General Commercial (GC) and will be rezoned to Industrial (I) for consistency with other lots within the Project Site. The General Plan and zoning designation for the Project Site will be Industrial (I). The Proposed Project is consistent with the outdoor storage yards to the south and industrial warehouses to the east. The project will not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect, because the project is consistent with all applicable land use policies and regulations of the City Zoning Code and General Plan. The Proposed Project is consistent with the General Plan land use designation of Industrial. The proposed use is permitted in the Industrial zone with a Design Review.

In addition, the Project Site is within Compatibility Zone D of the Banning Municipal Airport Compatibility Plan. The Proposed Project complies with Airport land Use Compatibility Plan and received approval from the Riverside Airport Land Use Commission on October 5, 2023 (**Appendix F**).

Therefore, no potential impacts associated with an applicable land use plan, policy or regulation would occur.

## *Mitigation Measures*

No mitigation measures associated with impacts to Land Use and Planning apply to the Proposed Project.

## *Conclusion*

Potential impacts of the Proposed Project associated with Land Use and Planning would be less than significant, and no mitigation would be required.

## 4.12 Mineral Resources

### *Regulatory Setting*

In 1975, the California legislature enacted the Surface Mining and Reclamation Act (SMARA). This act provides for the reclamation of mined lands and directs the State Geologist to classify (identify and map) the non-fuel mineral resources of the state to show where economically significant mineral deposits occur and where they are likely to occur based upon the best available scientific data. Mineral Resource Zones (MRZ) classifications are designed by the State Geologist in accordance with the State Mining and Geology Board (SMGB)'s priority list, as follows:

- MRZ-1 - areas where geologic information indicates no significant mineral deposits are present;
- MRZ-2 - areas that contain identified mineral resources;
- MRZ-3 - areas of undetermined mineral resource significance;
- MRZ-4 - areas of unknown mineral resource potential.

### *Environmental Setting*

The Proposed Project would be constructed on three vacant parcels totaling approximately 14.92 acres which will be consolidated into one parcel. The Project Site is split between General Commercial (GC) (APN 540-180-022) and Industrial (I) (APN 540-180-020 and-026) zoning and General Plan designations. Parcel No.540-180-022 is currently zoned General Commercial (GC) and will be rezoned to Industrial (I) for consistency with other lots within the Project Site. The Banning Quarry, operated by Robertson's Ready Mix, is the only aggregate producer in the City of Banning (City of Banning General Plan, 2004).

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **XII. MINERAL RESOURCES:** Would the project: | | | | |
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | | | | X |
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | | | | X |

## *Discussion*

*a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

**No Impact.** According to the City of Banning General Plan, Environmental Resources Element, the Project Site is designated Mineral Resource Zone (MRZ) 3. Areas designated MRZ-3 are defined as areas containing known or inferred mineral occurrences of undetermined mineral resource significance. MRZ-2 areas are where geologic data indicate that significant mineral resources are present. Since the Project Site is not designated MRZ-2, development of the Project Site would not impact the availability of known mineral resources in the surrounding area. Therefore, no impacts associated with any known mineral resource that would be of value to the region and the residents of the state would occur, and no mitigation would be required.

*b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

**No Impact.** The project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan, because no mining operations exist on or in the vicinity of the Project Site. Therefore, no impacts associated with the availability of any locally important mineral resource recovery sites would occur, and no mitigation would be required.

## *Mitigation Measures*

No mitigation measures associated with impacts to Mineral Resources apply to the Proposed Project.

## *Conclusion*

Potential impacts of the Proposed Project associated with Mineral Resources would be less than significant, and no mitigation would be required.

## 4.13 Noise

Ganddini Group prepared a Noise Impact Analysis to determine potential impacts from noise associated with the development of the Proposed Project (**Appendix I** – *Brown Strauss Industrial Project Noise Impact Analysis,* Ganddini Group, December 5, 2023).

Environmental noise is commonly measured in A-weighted decibels (dBA). A decibel (dB) is a unit of sound energy intensity. Sound waves, traveling outward from a source, exert a sound pressure level (commonly called a "sound level") measured in dB. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response that duplicates the sensitivity of human ears. Decibels are measured on a logarithmic scale. Generally, a three dBA increase in ambient noise levels represents the threshold at which most people can detect a change in the noise environment; an increase of 10 dBA is perceived as a doubling of loudness.

The FHWA identifies ranges of noise perceptibility as follows:

| Changes in Intensity Level, dBA | Changes in Apparent Loudness |
|---|---|
| 1 | Not perceptible |
| 3 | Barely perceptible change |
| 5 | Readily perceptible change |
| 10 | Twice (or half) as loud |

https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm

Noise Descriptors

The noise descriptors utilized in the noise study for the Proposed Project include but are not limited to the following:

- Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.
- Community Noise Equivalent Level (CNEL): Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (DNL). CNEL is a 24-hour weighted average measure of community noise. CNEL is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours. DNL is a very similar 24-hour average measure that weighs only the nighttime hours.
- Equivalent Sound Level ($L_{EQ}$): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time-varying noise level. Average noise levels over a period of minutes or hours are usually expressed as dBA $L_{eq}$, or the equivalent noise level for that period of time. For example, $L_{eq(3\text{-}hr)}$ would represent a 3-hour average. When no period is specified, a one-hour average is assumed.

- Maximum Sound Level (Lmax): The maximum sound level measured during a period of time.

Vibration

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

**Table 9** – *Vibration Source Levels for Construction Equipment* identifies typical construction sources of vibration as identified by the Federal Transit Administration.

**Table 9 – Vibration Source Levels for Construction Equipment**

| | Peak Particle Velocity (inches/second) at 25 feet | Approximate Vibration Level LV (dVB) at 25 feet |
|---|---|---|
| Pile driver (impact) | 1.518 (upper range) | 112 |
| | 0.644 (typical) | 104 |
| Pile driver (sonic) | 0.734 upper range | 105 |
| | 0.170 typical | 93 |
| Clam shovel drop (slurry wall) | 0.202 | 94 |
| Hydromill (slurry wall) | 0.008 in soil | 66 |
| | 0.017 in rock | 75 |
| Vibratory Roller | 0.21 | 94 |
| Hoe Ram | 0.089 | 87 |
| Large bulldozer | 0.089 | 87 |
| Caisson drill | 0.089 | 87 |
| Loaded trucks | 0.076 | 86 |
| Jackhammer | 0.035 | 79 |
| Small bulldozer | 0.003 | 58 |

Source: Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, September 2018.

## *Regulatory Setting*

Federal Regulations

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published Information on Levels of

Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Levels of Environmental Noise). The Levels of Environmental Noise recommended that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to State and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

The Federal Transit Administration (FTA) sets standards and criteria for assessing noise impacts related to transit projects based on community reactions to noise. FTA Noise Impact Criteria groups sensitive land uses into the three categories:

- Category 1 – High Sensitivity: Land where quiet is an essential element of its intended purpose. Example land uses include preserved land for serenity and quiet, outdoor amphitheaters and concert pavilions, and national historic landmarks with considerable outdoor use. Recording studios and concert halls are also included in this category.
- Category 2 – Residential: This category is applicable to all residential land use and buildings where people normally sleep, such as hotels and hospitals.
- Category 3 – Institutional: This category is applicable to institutional land uses with primarily daytime and evening use. Example land uses include schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, museums, campgrounds, and recreational facilities are also included in this category.

Most commercial or industrial uses are not considered noise-sensitive because activities within these buildings are generally compatible with higher noise levels. Business can be considered noise-sensitive if low noise levels are an important part of operations, such as sound and motion picture recording studios. Most parks used primarily for active recreation such as sports complexes and bike or running paths are not considered noise sensitive.

Construction noise is assessed using guidance provided in the FTA Guidance Manual. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential uses, the daytime noise threshold is 80 dBA Leq averaged over an 8-hour period (Leq (8-hr); and the nighttime noise threshold is 70 dBA Leq (8-hr). For commercial uses, the daytime and nighttime noise threshold is 85 dBA Leq (8-hr) and for industrial uses the daytime and nighttime noise threshold is 90 dBA Leq (8-hr).

FTA has developed impact criteria for acceptable levels of groundborne noise (GBN) and groundborne vibration (GBV). Criteria for ground-borne vibration are expressed in terms of rms velocity levels in VdB, and criteria for ground-borne noise are expressed in terms of A-weighted sound pressure levels in dBA. The threshold for annoyance from groundborne vibration at sensitive receptors for infrequent events is 80 VdB.

The FTA has adopted vibration standards that are used to evaluate potential building damage impacts related to construction activities. The threshold at which there is a risk to "architectural" damage to non-engineered timber and masonry buildings is a peak particle velocity (PPV) of 0.2, at engineered concrete and masonry buildings a PPV of 0.3, and at reinforced-concrete, steel, or timber buildings a PPV of 0.5.

State Regulations

Though not adopted by law, the State of California General Plan Guidelines 2017, published by the California Governor's Office of Planning and Research (OPR) (OPR Guidelines), provides guidance for the compatibility of projects within areas of specific noise exposure. The OPR Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. The OPR Guidelines include a Noise and Land Use Compatibility Matrix which identifies acceptable and unacceptable community noise exposure limits for various land use categories. Where the "normally acceptable" range is used, it is defined as the highest noise level that should be considered for the construction of buildings which do not incorporate any special acoustical treatment or noise mitigation. The "conditionally acceptable" or "normally unacceptable" ranges include conditions calling for detailed acoustical study prior to the construction or operation of the Proposed Project.

The State of California has established noise insulation standards as outlined in Title 24 and the Uniform Building Code (UBC) which in some cases requires acoustical analyses to outline exterior noise levels and to ensure interior noise levels do not exceed the interior threshold.

City of Banning

The City of Banning outlines its noise regulations and standards within the Municipal Code and General Plan. Industrial land uses are considered "normally acceptable" where noise levels are not expected to exceed 70 dBA CNEL and "conditionally acceptable" between 70-75 dBA CNEL. These standards apply to the Proposed Project itself. The City of Banning General Plan has also established goals and policies regarding noise which apply to the Proposed Project.

Best Management Practices

The following best management practices (BMPs) shall be provided on project plans and in contract specifications to minimize construction and operational noise emanating from the Proposed Project:

1. All equipment, whether fixed or mobile, will be equipped with properly operating and maintained mufflers, consistent with manufacturer standards.

2. All stationary construction equipment will be placed so that emitted noise is directed away from the noise sensitive receptors near the Project Site.
3. As applicable, all equipment shall be shut off and not left to idle when not in use.
4. To the degree possible, equipment staging will be located in areas that create the greatest distance between construction-related noise and vibration sources and existing sensitive receptors.
5. Jackhammers, pneumatic equipment, and all other portable stationary noise sources will be directed away and shielded from existing residences in the vicinity of the Project Site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and existing residences. The shielding should be without holes and cracks.
6. No amplified music and/or voice will be allowed on the Project Site.
7. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per City of Banning Municipal Code Section 8.44.090(E).

The use of vibratory rollers, or other similar vibratory equipment, will be prohibited within 26 feet of the existing commercial structures to the east of the Project Site.

## *Environmental Setting*

The Project Site consists of three vacant parcels situated on the north side of W Lincoln Street, south of Redlands Freeway (I-10) and the Union Pacific Railroad Corridor, west of South 8th street, and East of South 22nd Street. The Project Site is bordered by a Union Pacific (UP) rail line to the north, an industrial use to the east, Lincoln Street to the south, and vacant land to the west.

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, single and multiple-family residential, including transient lodging, motels and hotel uses make up the majority of these areas. Sensitive land uses that may be affected by project noise include the non-single-family residential uses located as close as approximately 75 feet south (along the southern side of Lincoln Avenue). However, it should be noted that these existing residential uses are non-conforming land uses that are designated as Business Park on the City of Banning General Plan and Zoning Map.

The Noise Impact Analysis (**Appendix I**) identified background noise and modeled existing noise. To document existing ambient noise levels in the project area, four (4) 15-minute daytime noise measurements were taken between 10:18 AM and 12:02 PM on April 25, 2023, and one (1) 15-minute daytime noise measurements was taken between 3:47 PM and 4:02 PM on April 26, 2023. In addition, one (1) long-term 24-hour noise measurement was also taken from April 25, 2023, to April 26, 2023. Furthermore, (1) 15-minute and two (2) 2-hour measurements were taken on May 10, 2023, at the existing facility associated with the Proposed Project in Fontana, California in order to document the noise levels associated with project rail spur activity. The noise meter was placed at the following locations at the Proposed Project Site, as shown in **Figure 13 –** *Noise Monitoring Locations*:

- STNM1: represents the existing noise environment of the single-family residences located to the south of the Project Site along the southern side of Lincoln Street. The noise meter was placed along the southern side of Lincoln Street at the northern property line of the vacant residential property located at 1356 West Lincoln Street, Banning.
- STNM2: represents the existing noise environment of the single-family residence located to the southwest of the Project Site along the southern side of Lincoln Street. The noise meter was placed along the southern side of Lincoln Street near the northeastern property line of the residential property located at 1574 West Lincoln Street, Banning.
- STNM3: represents the existing noise environment of the single-family residences located to the southwest of the Project Site along the southern side of Barbour Avenue. The noise meter was placed along the southern side of Barbour Avenue near the northern property line of the residential property located at 1340 Barbour Avenue, Banning.
- STNM4: represents the existing noise environment of the northern Project Site boundary. The noise meter was placed near the center of the northern boundary of the Project Site just south of the adjacent UP rail line.

STNM5: represents the existing noise environment of the single-family residences located to the southwest of the Project Site along the northern side of Lincoln Street. The noise meter was placed along the northern side of Lincoln Street near the southern property line of the residential property located at 2099 West Lincoln Street, Banning.

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **XIII. NOISE:** Would the project result in: | | | | |
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project Site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | | | X | |
| b) Generation of excessive groundborne vibration or groundborne noise levels? | | | X | |
| c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | | | X | |

## *Discussion*

*a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

**Less Than Significant Impact.** The Proposed Project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project Site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. The following section calculates the potential noise emissions associated with the temporary construction activities and long-term operations of the Proposed Project and compares the noise levels to City standards.

Construction Impacts

Construction noise is regulated within Section 8.44.090(E) of the City of Banning Municipal Code (see Regulatory Setting section of this report). Accordingly, the project would result in a significant impact if:

- Project construction occurs outside the hours of 7:00 AM and 6:00 PM; or

- Project construction noise exceeds 55 dBA at the interior of an occupied residence or school for any 15-minute period.

Project construction noise levels at nearby sensitive receptors were calculated using the FTA methodology. Modeled construction noise levels reach up to 71.9 dBA Leq at the nearest vacant residential property line to the south and up to 71.2 dBA Leq at the nearest occupied residential property line to the south of the Project Site.

Project construction will not occur outside of the hours outlined in Section 8.44.090(E) of the City of Banning Municipal Code. Based on the modeled construction noise levels, interior noise levels are estimated to reach a maximum of 51.9 dBA at the nearest residential property line with windows closed based on typical exterior to interior noise transmission (**Table 10** – Construction Noise Levels (dBA $L_{eq}$) at the Nearest Sensitive Receptors. Therefore, the project would not exceed City-established standards relating to construction noise. The project impact is less than significant; no mitigation is required.

Notwithstanding, best management practices (BMPs) are provided in the Regulatory Setting section above and should be added to project plans and in contract specifications to minimize construction noise emanating from the Proposed Project.

**Table 10 – Construction Noise Levels (dBA $L_{eq}$) at the Nearest Sensitive Receptors**

| Phase | Receptor Location | Existing Ambient Noise Levels (dBA Leq)[1] | Construction Noise Levels (dBA Leq) | Interior Noise Level (dBA Leq)[2] |
|---|---|---|---|---|
| **Grading** | Vacant Residential to South (1356 W Lincoln Street, Banning) | 65.7 | 71.9 | 51.9 |
| | Residential to South (1380 W Lincoln Street, Banning) | 65.7 | 71.2 | 51.2 |
| **Building Construction** | Vacant Residential to South (1356 W Lincoln Street, Banning) | 65.7 | 70.5 | 50.5 |
| | Residential to South (1380 W Lincoln Street, Banning) | 65.7 | 69.8 | 49.8 |
| **Paving** | Vacant Residential to South (1356 W Lincoln Street, Banning) | 65.7 | 64.1 | 44.1 |
| | Residential to South (1380 W Lincoln Street, Banning) | 65.7 | 63.4 | 43.4 |
| **Architectural Coating** | Vacant Residential to South (1356 W Lincoln Street, Banning) | 65.7 | 57.5 | 37.5 |
| | Residential to South (1380 W Lincoln Street, Banning) | 65.7 | 56.8 | 36.8 |

Notes:
1. Per measured existing ambient noise levels (Table 1). STNM1 was used for residential receptors to the south of the Project Site
2. Residential construction typically provides an exterior to interior noise reduction of approximately 20 dB with a windows closed condition. It should be noted that the construction noise levels were calculated at the property line rather than the dwelling unit; therefore, as the interior noise levels are based on the calculated construction noise levels at the property line, they are conservative.

Operations Impacts

Stationary noise source standards are established within Sections 8.44.050 through 8.44.080 of the City of Banning Valley Municipal Code. The City noise criteria for stationary operational noise are dependent on the existing zoning and not the existing land use. The City has only established noise criteria for stationary noise impacts to residential zoned land. The properties east and west of the Project Site are zoned General Commercial; properties south of the Project Site are zoned Business Park; and properties north of the Project Site are zoned Public Facilities (Railroad/Interstate). Existing single-family homes located southwest of the Project Site and west of South 16th Street are on land zoned Very Low Residential. Accordingly, the project will result in a significant impact if it exceeds a nighttime Leq of 45 dBA or a daytime Leq of 55 dBA; or if they exceed a nighttime Lmax of 65 or a daytime Lmax of 75 dBA at residentially zoned properties.

As shown in **Figure 14** – *Operational Noise Levels Leq*, peak hour project operation is expected to reach up to 48.5 dBA Leq at the nearest residentially zoned properties located on the west side of South 16th street and would not exceed the daytime Leq criteria of 55 dBA but could exceed the nighttime Leq criteria of 45 dBA. However, based on existing measured nighttime noise levels of freeway and rail noise, nighttime noise levels at the residentially zoned properties at this location currently range between 55.9 and 56.9 dBA Leq and therefore, the addition of project operational noise (48.5 dBA Leq) will not result in a noticeable increase over the existing measured nighttime noise levels (1 dB). It should also be noted that nighttime onsite operations are typically less intensive than peak hour onsite operations. This impact is less than significant. No mitigation is required.

As shown in **Figure 15** – *Operational Noise Levels Lmax*, maximum noise events on the Project Site could result in noise levels of up to 48.7 dBA Lmax at the closest residentially zoned properties and would not exceed the City's daytime Lmax criteria of 75 dBA or the nighttime Lmax criteria of 65 dBA. This impact is less than significant. No mitigation is required.

Mobile Source Impacts

During operation, the Proposed Project is expected to generate approximately 191 average daily vehicle trips, including 22 vehicle trips during the AM peak hour and 10 vehicle trips during the PM peak hour. A project-generated traffic noise level was modeled utilizing the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108. As shown in **Table 11**, modeled existing traffic noise levels range between 63.3-69.5 dBA CNEL and the modeled Existing Plus Project traffic noise levels range between 65.1-69.7 dBA CNEL at the right-of-way of each study roadway segment. The addition of project trips is not expected to change noise levels in excess of the applicable threshold at any of the study roadway segments. The project impact is less than significant; no mitigation is required.

**Table 11 – Increase in Existing Noise Levels Along Roadways as a Result of Project (dBA CNEL)**

| Roadway | Segment | Distance from roadway centerline to right-of-way (feet)[1] | Modeled Noise Levels (dBA CNEL)[2] | | | | |
|---|---|---|---|---|---|---|---|
| | | | Existing Without Project | Existing Plus Project | Change in Noise Level | Exceeds Standards[3] | Increase of 3 dB or More? |
| 22nd Street | North of Lincoln Street | 44 | 63.3 | 65.1 | 1.80 | Yes | No |
| 8th Street | North of Lincoln Street | 50 | 69.5 | 69.7 | 0.23 | Yes | No |
| Lincoln Street | East of 22nd Street | 50 | 65.5 | 66.8 | 1.31 | Yes | No |
| | West of Project West Dwy | 50 | 65.1 | 66.5 | 1.40 | Yes | No |
| | Project West Dwy to Project Central-West Dwy | 50 | 65.1 | 66.4 | 1.28 | Yes | No |
| | Project Central-West Dwy to Project Central East-Dwy | 50 | 65.1 | 66.1 | 1.03 | Yes | No |
| | Project Central-East Dwy to Project East Dwy | 50 | 65.1 | 66.1 | 1.03 | Yes | No |
| | East of Project East Dwy | 50 | 65.2 | 66.0 | 0.88 | Yes | No |
| | West of 8th Street | 50 | 65.5 | 66.3 | 0.82 | Yes | No |

Notes:
(1) Right of way per the City of Banning General Plan Circulation Element roadway cross-sections.
(2) Exterior noise levels calculated 5 feet above pad elevation, perpendicular to subject roadway.
(3) Per the City of Banning "normally acceptable" standard for single-family detached residential dwelling units of 60dBA CNEL.

*b) Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?*

**Less Than Significant Impact.** The Noise Impact Analysis (**Appendix I**) analyzed the potential vibration levels.

The City of Banning has not established thresholds of significance concerning groundborne vibration. In the absence of City-established thresholds, groundborne vibration impacts are based on guidance from the *Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual* (FTA, September 2018). Accordingly, the project would result in a significant impact if:

- Groundborne vibration levels generated by the project have the potential to cause architectural damage at nearby buildings by exceeding the following PPV:
  - 0.10 in/sec at buildings extremely susceptible to vibration damage
  - 0.20 in/sec at non-engineered timber and masonry buildings
  - 0.30 in/sec at engineered concrete and masonry (no plaster) buildings
  - 0.50 in/sec at reinforced-concrete, steel or timber (no plaster) buildings
- Groundborne vibration levels generated by the project have the potential to cause annoyance at sensitive receptors by exceeding 72 VdB.

Based on the groundborne vibration modeling, use of a vibratory roller is expected to generate a PPV of 0.375 in/sec and use of a bulldozer is expected to generate a PPV of 0.159 in/sec at the closest off-site building, a commercial use located approximately 17 feet east of the Project Site (**Table 12**). Other equipment anticipated to be used during project construction generate lower PPV. However, with implementation of the project best management practice provided in the Regulatory Setting, groundborne vibration generated by project construction would not exceed the levels necessary to cause architectural damage.

The closest structures to the Project Site are the commercial uses to the east; however, commercial uses are not considered to be vibration-sensitive land uses. Use of vibratory rollers could theoretically exceed the threshold for annoyance due to vibration (72 VdB at offsite residential sensitive uses) at the nearest existing residential structure to the south of the Project Site, located approximately 120 feet south, and residents may be temporarily annoyed (**Table 12**). However, perceptibility of construction vibration would be temporary and would only occur while vibratory equipment is utilized within 16 feet of the project property lines in proximity of the residential use to the south. Furthermore, this impact would be reduced with incorporation of the best management practice provided in the Regulatory Setting for architectural damage and would only occur during daytime hours. This impact would be less than significant. No mitigation is required.

The most substantial sources of groundborne vibration during post-construction project operations will include the movement of passenger vehicles and trucks on paved and generally smooth surfaces. Loaded trucks generally have a PPV of 0.076 at a distance of 25 feet (Caltrans 2020), which is a substantially lower PPV than that of a vibratory roller (0.210 in/sec PPV at 25 feet). Therefore, groundborne vibration levels generated by project operation would not exceed those modeled for project construction.

**Table 12 – Construction Vibration Levels at the Nearest Receptors**

| Receptor Location | Distance from Property Line to Nearest Structure (ft) | Equipment | Vibration Level[1] | Threshold Exceeded?[2] | Vibration Level with BMPs[1,3] | Threshold Exceeded with BMPs?[2,3] |
|---|---|---|---|---|---|---|
| ***Architectural Damage Analysis:*** | | | | | | |
| Commercial Use to East (northern building, 1143 West Lincoln Street, Banning) | 17 | Vibratory Roller | 0.375 | Yes | 0.198 | No |
| | 17 | Large Bulldozer | 0.159 | No | - | - |
| Commercial Use to East (southern building, 1143 West Lincoln Street, Banning) | 77 | Vibratory Roller | 0.039 | No | - | - |
| | 77 | Large Bulldozer | 0.016 | No | - | - |
| Residential to South (1380 West Lincoln Street, Banning) | 120 | Vibratory Roller | 0.020 | No | - | - |
| | 120 | Large Bulldozer | 0.008 | No | - | - |
| Industrial Use to West (1879 West Lincoln Street, Banning) | 505 | Vibratory Roller | 0.002 | No | - | - |
| | 505 | Large Bulldozer | 0.001 | No | - | - |
| ***Annoyance Analysis:*** | | | | | | |
| Residential to South (1380 West Lincoln Street, Banning) | 120 | Vibratory Roller | 74 | Yes | - | - |
| | 120 | Large Bulldozer | 67 | No | - | - |

Notes:

1. Vibration levels are provided in PPV in/sec.
2. The FTA identifies the threshold at which there is a risk to "architectural" damage to no-engineered timber and masonry buildings as a PPV of 0.2 in/sec. In addition, the FTA identifies a vibration annoyance threshold of 72 VdB for residential uses. Per the FTA Transit Noise and Vibration Impact Assessment Manual (September 2018), commercial uses are not considered vibration-sensitive land uses; therefore, the annoyance threshold does not apply to commercial uses.
3. Best Management practices include prohibiting the use of vibratory rollers, or other similar vibratory equipment, within 26 feet of commercial structures to the east of the Project Site.

*c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

**Less Than Significant Impact.** The closest airport to the Project Site is the Banning Municipal Airport with airport runways located as close as approximately 1.72 miles east of the Project Site. Per the Banning Municipal Airport Master Plan Update (2007) the Project Site is well outside the 55 dBA CNEL noise contour for the airport. The project would not expose people residing or working in the project area to excessive noise levels associated with airports. This impact would be less than significant. No mitigation is required.

## *Mitigation Measures:*

No mitigation measures associated with impacts to Mineral Resources apply to the Proposed Project.

## *Conclusion*

Potential impacts of the Proposed Project associated with Noise would be less than significant, and no mitigation would be required.




Figure 13: Noise Monitoring Location Map

Source: *Gandini Noise Impact Analysis*

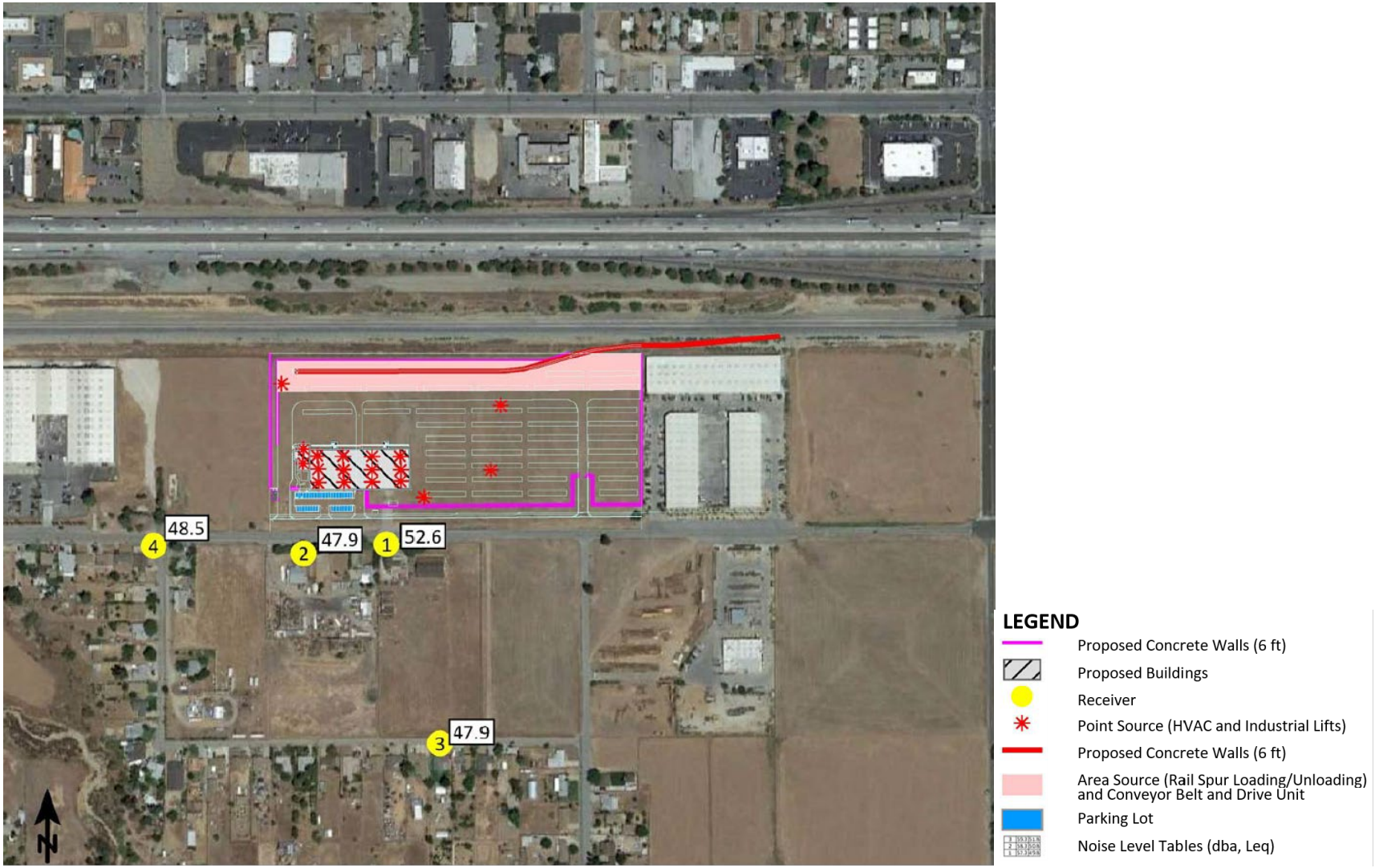



Figure 14: Operational Noise Levels (dBA, Leq)

Source: *Gandini Noise Impact Analysis*

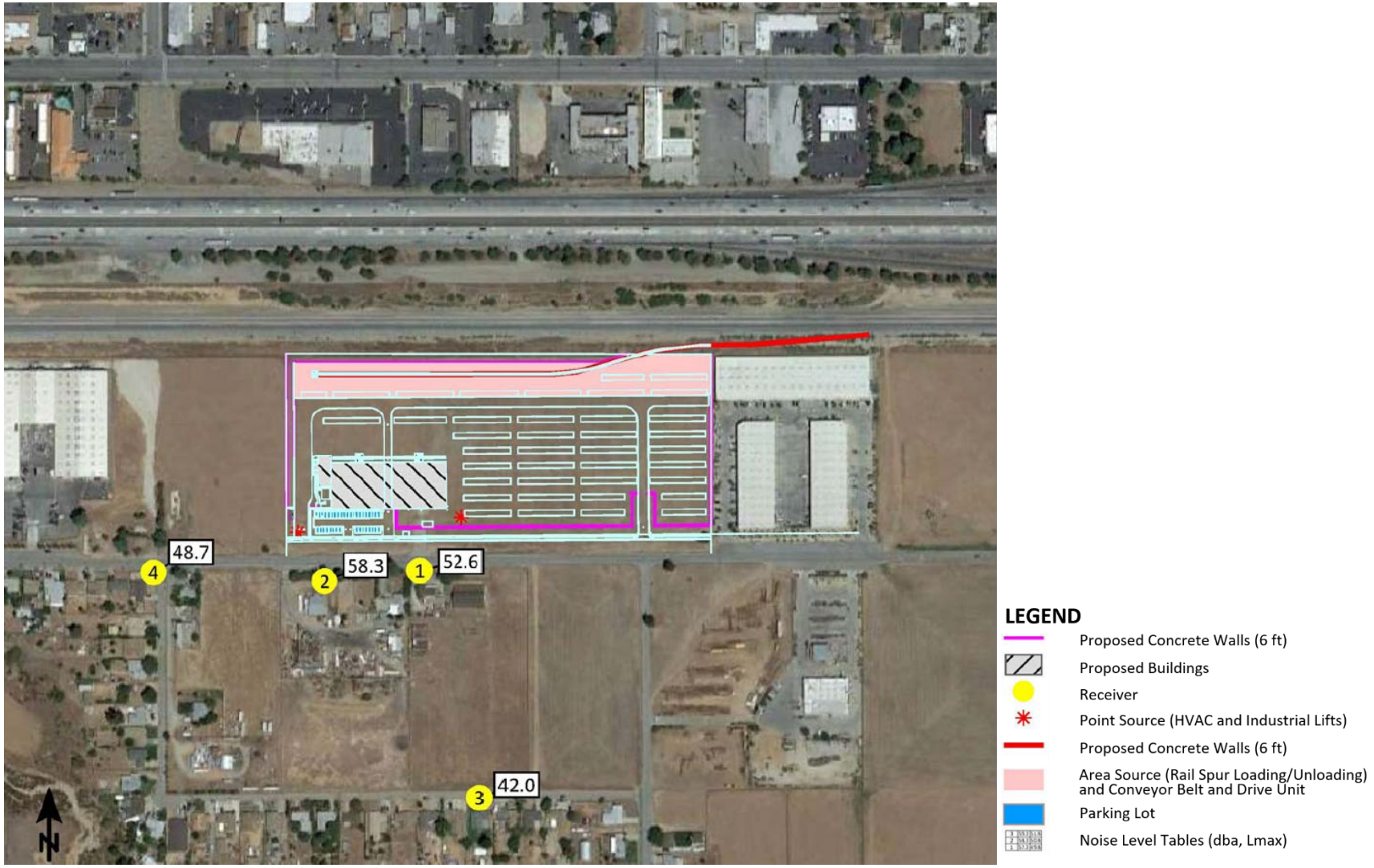



Figure 15: Operational Noise Levels (dBA. Lmax)

Source: *Gandini Noise Impact Analysis*

## 4.14 Population and Housing

### *Environmental Setting*

The Proposed Project would be constructed on three vacant parcels totaling approximately 14.92 acres which will be consolidated into one parcel. The Project Site is split between General Commercial (GC) (APN 540-180-022) and Industrial (I) (APN 540-180-020 and-026) zoning and General Plan designations. Parcel No.540-180-022 is currently zoned General Commercial (GC) and will be rezoned to Industrial (I) for consistency with other lots within the Project Site. The Banning Quarry, operated by Robertson's Ready Mix, is the only aggregate producer in the City of Banning (City of Banning General Plan, 2004).

The Project Site is located on the north side of W. Lincoln Street between S. 8th Street and S. 16th Street. The Project Site is approximately 14.92 gross acres and is currently unimproved land located within an area developed with industrial and non-conforming rural residential land uses. It is bounded by Union Pacific railroad track to the north, industrial warehouses to the east, a mix of currently vacant and non-conforming rural residential parcels to the south across W Lincoln Street, and a vacant land to the west.

Census data in 2020 identified the population of the City of Banning as 29,505, down from 29,603 in the 2010 census. Owner-occupied housing rate between 2017 and 2021 was identified as 69.4 percent. The City of Banning corporate limits encompass about 23.2 square miles and has a population density estimated at 1,269.7 people per square mile.

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **XIV. POPULATION AND HOUSING:**<br>Would the project: | | | | |
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | | | X | |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | | | | X |

## *Discussion*

*a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

**Less Than Significant Impact.** The Proposed Project may create jobs both during construction and operation and therefore, may indirectly contribute to population growth within the City. However, it is anticipated that some of new jobs would be filled by workers who already reside in the City and that the Proposed Project would not attract a significant number of new residents to the City.

Although the Proposed Project will include some expansion of infrastructure, this new infrastructure will all be constructed to serve the Proposed Project's needs and will not cause additional unplanned growth. Therefore, potential impacts associated with population growth would be less than significant, and no mitigation would be required.

*b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

**No Impact.** The Project Site is currently vacant and does not contain any structures. The Proposed Project will not displace any existing housing and will not necessitate construction of replacement housing elsewhere. The Project Site is undeveloped and surrounded by a mix of vacant and industrial warehouses (east and west) and non-conforming rural residential (south). Neither construction nor operation of the Proposed Project will displace these existing homes or substantial numbers of people necessitating the construction of replacement housing

elsewhere. Therefore, no impact would occur regarding the displacement of existing people or housing, and no mitigation would be required.

### *Mitigation Measures*

No mitigation measures associated with impacts to Population and Housing apply to the Proposed Project.

### *Conclusion*

Potential impacts of the Proposed Project associated with Population and Housing would be less than significant, and no mitigation would be required.

## 4.15 Public Services

### *Environmental Setting*

Fire services are provided by contract with the County of Riverside. Police protection services within City limits are provided by the Banning Police Department. The Banning Unified School District provides the school services within the vicinity of the Project Site. Recreation services are provided by the City of Banning

### *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **XV. PUBLIC SERVICES:** a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| Fire protection? | | | X | |
| Police protection? | | | X | |
| Schools? | | | X | |
| Recreation/Parks? | | | X | |
| Other public facilities? | | | X | |

### *Discussion*

*a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

Fire Protection

**Less Than Significant Impact.** The closest fire station to the Project Site is Fire Station 89 (Riverside County Fire Stations) at 172 N Murray Street, approximately 1.4 miles east of the Project Site. This station would be the first to respond to calls for service from the Project Site. Fire Station 20 at 1550 E 6th Street, Beaumont, could provide secondary response to the Project Site.

The Proposed Project would involve the construction of a steel distribution facility consisting of a 42,510 SF warehouse, a 3,434 SF administrative office, two 500 SF enclosed saw sheds, outdoor storage yard, and associated parking and landscaping. The facility may increase the number of fire or emergency services calls. However, considering the proposed use, building type and existing firefighting resources available at the Riverside County Fire Department

Station 89 only 1.4 miles away from the Project Site, adverse impacts on the Riverside County Fire Department (RCFD) services are not expected to occur. The increase in fire service demand generated by the Proposed Project would not require the construction of a new fire station or improvements to either RCFD stations serving the City of Banning.

Additionally, the Proposed Project is required to comply with the most current adopted fire, building, and electrical codes and nationally recognized fire and life safety standards of the City and RCFD, as outlined in Chapter Title 15 (Building and Construction) of the City's municipal code. Compliance with these codes and standards would be enforced through the City's development review and building plan check process. Additionally, City Ordinance No. 2019-112 establishes a developer impact fee (DIF) to mitigate the cost of public facilities needed to offset the impact of developing new facilities to support fire services (ORD 2019-112). The Proposed Project will be required to comply with Ordinance No. 2019-112 in order to offset potential impacts to the local fire department.

Therefore, potential impacts associated with fire protection would be less than significant, and no mitigation would be required.

Police Protection

**Less Than Significant Impact.** The Perris Police Station is located at 1061 N Hargrave Street, approximately 1.4 miles east of the Project Site. Typically, impacts on police services are analyzed based on increases in permanent residents from projects involving residential developments. Although the Proposed Project does not involve an increase in residential development, the Proposed Project could generate a typical range of police service calls, such as vehicular burglaries or thefts and disturbances.

The Project Site would have perimeter fences/walls, would be secured during closure hours, would include security lighting and other security measures. Therefore, it is unlikely that that the Project would trigger the need for new or expanded police facilities. Additionally, because the Project Site is already within the Banning Police Station service area, the Proposed Project would not require an expansion of Riverside County Sheriff's Department (RCSD) service area.

Additionally, City Ordinance No. 2019-112 establishes a developer impact fee (DIF) to mitigate the cost of public facilities needed to offset the impact of developing new facilities to support police services (ORD 2019-112). The Proposed Project will be required to comply with Ordinance No. 2019-112 in order to offset potential impacts to the local police department.

Therefore, development of the Proposed Project would not result in the need for new or physically altered police protection facilities. Therefore, potential impacts associated with police protection would be less than significant, and no mitigation would be required.

Schools

**Less Than Significant Impact.** The Project Site is within the boundaries of the Banning Unified School District. The Proposed Project would not directly increase the City's population as it does not increase residential land use designations nor construct any housing. The Proposed Project

would not generate the need for new or altered school facilities. It may indirectly affect schools by providing a source of employment that may draw new residents into the area; however, appropriate developer impact fees, as required by state law, shall be assessed and paid to the school district. Since the Proposed Project does not include any new housing, any potential impacts would be considered incremental and can be offset through the payment of the appropriate development impact fees. Therefore, potential impacts associated with schools would be less than significant, and no mitigation would be required.

Recreational/Parks

**Less Than Significant Impact.** The Proposed Project would not directly require the construction or expansion of public recreational facilities as it does not propose new residential uses. However, it may indirectly affect public recreational facilities by providing a source of employment that may draw new residents into the area. The applicable Recreational Facilities Development Impact Fees (DIFs) shall be assessed and paid toward parks. With the payment of these fees, the impacts to parks and other public recreational facilities are considered mitigated to a less than significant level. Recreational amenities for future employees would be provided in accordance with the Chapter 17.12 Industrial Development Standards and Design Guidelines of the Banning Municipal Code. The physical impacts of building these amenities are addressed through the overall analysis of the site development and no unique or separate environmental impacts will occur as a result of building these facilities. Therefore, potential impacts associated with park facilities would be less than significant, and no mitigation would be required.

Other Public Facilities

**Less Than Significant Impact.** The Proposed Project would not directly increase the demand for library or other public services because it does not propose new residential uses. The main branch of the Banning Public Library is located at 21 West Nicolet Street. The Proposed Project is subject to development impact fees that are used to construct new library facilities or expand existing library facilities subsequent to increased demand. Since the Proposed Project does not include new housing, any impacts will be considered incremental and can be offset through the payment of the appropriate library mitigation fees. Therefore, potential impacts associated with library facilities would be less than significant, and no mitigation would be required.

The nearest emergency medical service available to the Project Site is the San Gorgonio Memorial Hospital located at 600 N Highland Springs Avenue approximately 3.6 miles northwest of the Project Site. Healthcare facilities are developed in response to perceived market demand by free enterprise. The development of the Proposed Project will not result in the construction for new or expanded medical facilities. Therefore, potential impacts associated with medical facilities would be less than significant, and no mitigation measures would be required.

## *Mitigation Measures*

No mitigation measures associated with impacts to Public Services apply to the Proposed Project.

## *Conclusion*

Potential impacts of the Proposed Project associated with Public Services would be less than significant, and no mitigation would be required.

## 4.16 Recreation

The City of Banning provides recreational services throughout the City. There are no parks or recreational facilities within the vicinity of the Project Site.

### *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **XVI. RECREATION:** | | | | |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | | | X | |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | | | | X |

### *Discussion*

*a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

**Less Than Significant Impact.** Impacts on parks and recreational facilities are typically analyzed based on increases in permanent residents from projects involving residential developments. The Project applicant proposes to construct a warehouse and outdoor storage in the Industrial zone, and therefore, it does not include any residential development or permanent residents. Although the Proposed Project may indirectly affect recreational facilities by creating new jobs in the area which may draw new residents to the area, it is anticipated that the majority of jobs will be filled by individuals already residing in the vicinity of the Project Site. Indirect impacts to park facilities will be offset through payment of the applicable Recreational Facilities DIFs. Therefore, with payment of these fees, potential impacts associated with parks and other public recreational facilities would be less than significant, and no mitigation would be required.

*b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

**No Impact.** This project does not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment because the type of project proposed will not result in an increased demand for recreational facilities. Therefore, no impacts associated with the construction or expansion of recreational facilities would occur, and no mitigation would be required.

## *Mitigation Measures*

No mitigation measures associated with impacts to Recreation apply to the Proposed Project.

## *Conclusion*

Potential impacts of the Proposed Project associated with Recreation would be less than significant, and no mitigation would be required.

## 4.17 Transportation

Traffic studies were prepared to determine potential impacts from transportation associated with the development of the Proposed Project (**Appendix J** – *Brown Strauss Industrial Project, Traffic Impact Analysis, City of Banning*, Ganddini Group, October 23, 2023, and **Appendix K –** *Brown Strauss Industrial Project Vehicle Miles Traveled Screening Assessment*, Ganddini Group, April 23, 2023).

### *Regulatory Setting*

*Senate Bill 743*

SB 743, passed in 2013, updated the way transportation impacts are measured in California for new development projects, to allow Californians more options to drive less. The change was made as part of the California Global Warming Solutions Act of 2006 (Assembly Bill [AB 32]) to assist with achieving climate commitments.

In January 2019, the California Office of Planning and Research (OPR) issued guidance relative to evaluating a project's Vehicle Miles Traveled (VMT) to reduce GHG emissions. The CEQA Guidelines were also subsequently revised to require that lead agencies utilize VMT-related metric(s) that evaluate the significance of transportation-related impacts under CEQA for development projects, land use plans, and transportation infrastructure projects, beginning on July 1, 2020. Until that time, jurisdictions utilized a Level of Service (LOS) to analyze traffic impacts. The OPR guidelines require that projects be evaluated using VMT metrics but also allows jurisdictions to continue to use the LOS method as a secondary methodology for non-CEQA purposes.

The State OPR also set forth guidance for agencies to use "screening thresholds" to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. (refer to CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and CEQA Guidelines Appendix G). The types of projects that are exempt from preparing a detailed VMT analysis are based on project size, maps, transit availability, and provision of affordable housing. Consistent with the requirements of CEQA Guidelines Section 15064.3, the City of Perris adopted significance criteria for transportation impacts based on VMT when evaluating VMT to determine traffic-related impacts for land use development projects. The screening criteria and significance criteria are contained in the *City of Perris Transportation Impact Analysis Guidelines for CEQA* (May 12, 2020) ["the City TIA Guidelines"].

*Regional Transportation Plans*

The Southern California Association of Governments (SCAG) is a council of governments representing the six-county region of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. Every four years SCAG updates the Regional Transportation Plan (RTP) for the six-county region. On April 7, 2016, the SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan / Sustainable Communities Strategy (2016 RTP/SCS). The SCS outlines a development pattern for the region, which, when integrated with the transportation

network and other transportation measures and policies, would reduce greenhouse gas emissions from transportation (excluding goods movement).

*City of Banning*

The City of Perris's General Plan contains a Circulation Element that addresses the physical circulation system consisting of streets, highways, bicycle routes, equestrian facilities, paths, and sidewalks, as well as available modes of transportation, including cars, buses, bicycles, and walking. The Circulation Element also identifies goals and policies with respect to the City's transportation network. A Traffic Impact Analysis (**Appendix J**) was completed for the Project Site considering existing and post-project traffic conditions.

Study Area

The scope of this analysis was determined in consultation with City of Banning staff as documented in the City-approved scoping agreement provided in **Appendix J**.

Based on the study intersections identified in the approved scoping agreement, the study area consists of the following study intersections within City of Banning jurisdiction:

| Study Intersections[1] | Jurisdiction |
|---|---|
| 1. 22nd Street (NS) at Lincoln Street (EW) | City of Banning |
| 2. Project West Driveway (NS) at Lincoln Street (EW) | City of Banning |
| 3. Project Central-West Driveway (NS) at Lincoln Street (EW) | City of Banning |
| 4. Project Central-East Driveway (NS) at Lincoln Street (EW) | City of Banning |
| 5. Project East Driveway/12th Street (NS) at Lincoln Street (EW) | City of Banning |
| 6. 8th Street (NS) at Lincoln Street (EW) | City of Banning |

Notes:

1. (NS) = North-South roadway; (EW) = East-West roadway

*Study Methodology*

Level of Service

Level of Service (LOS) analysis is generally performed for assessing conformance with General Plan and operational standards established by the City. LOS is commonly used as a qualitative description of intersection operation and is based on the capacity of the intersection and the volume of traffic using the intersection.

In accordance with current CEQA provisions, a project's effect on automobile delay as measured by LOS shall not constitute a significant environmental impact. Therefore, LOS is not discussed as a measure of analysis as part of this report. Analysis related to LOS and General Plan consistency shall be discussed as part of the Planning entitlement review process

associated with this document. As such, the following scenarios are analyzed for weekday AM and PM peak hour conditions:

- Existing Conditions (2023)
- Opening Year Conditions (2025)
- Opening Year Conditions With Project (2025)
- Cumulative Conditions (2025)
- Cumulative Conditions With Project (2025)
- Horizon Year Conditions (2045)
- Horizon Year Conditions With Project (2045)

This study includes a General Plan Buildout (Horizon Year (2045)) analysis as the project also involves a General Plan Amendment/Zone Change for a portion of the site from Industrial (I) and General Commercial (CC) to Industrial (I).

For study intersections within the City of Banning jurisdiction, a traffic impact occurs if:

a) The addition of project traffic causes the intersection LOS to degrade from acceptable LOS D or better to an unacceptable LOS E or F.

b) The addition of project traffic causes the peak hour delay to increase as follows:

- LOS A/B by 10 seconds;
- LOS C by 8 seconds;
- LOS D by 5 seconds;
- LOS E by 2 seconds;
- LOS F by 1 second

If either of the above conditions is satisfied, improvements should be identified that achieve the following:

- Improving traffic operations to LOS D for case a, above.
- Improving traffic operations to offset the increase in delay for case b, above.

If a project is forecast to cause an operational traffic impact, feasible improvements that will reduce the impact to an acceptable LOS are identified. Improvements can be in many forms, including the addition of lanes, traffic control modification, or demand management measures.

Vehicle Miles Traveled

The Vehicle Miles Traveled Assessment (**Appendix K)** utilized the City TIA Guidelines for assessing VMT.

The City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021) (TIA Guidelines) provide a framework for "screening thresholds" for certain projects that are expected to cause a less than significant impact without based on substantial evidence provided in the Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018).

The TIA Guidelines specify the following six screening steps: 1) Transit Priority Area (TPA) Screening; 2) Low VMT Area Screening; 3) Local-Serving Retail; 4) Redevelopment Projects; 5) Project Type Screening; and 6) Project net daily trips less than 500/1,000 ADT.

Trip Generation Rate

Brown Strauss Steel currently operates a larger 23-acre facility located at 14970 Jurupa Avenue in the City of Fontana. If the Proposed Project in Banning is approved, the existing operation in Fontana will be closed and its operations will be moved to the 14.27-acre Project Site. The existing facility, located at 14970 Jurupa Avenue, operates on a 23-acre site with no warehouse and a small storage shed. Though the Project Site is smaller than the Fontana site, Brown Strauss anticipates that the more efficient layout of the Banning facility, including the warehouse, will allow for staffing levels to remain the same or be reduced after the relocation is complete. Since the same operations capacity will be taking place at the Banning site, it was determined that accurate potential traffic impacts for the Proposed Project could be derived by undertaking targeting traffic counts at the existing Fontana facility.

To determine Proposed Project trip generation, 24-hour inbound/outbound trip counts were conducted at the driveway of the existing Brown Strauss Steel facility in the City of Fontana (14970 Jurupa Avenue) over a three-day period from Tuesday, March 7, 2023, through Thursday, March 9, 2023. Trip generation count worksheets are included in **Appendix J**.

**Table 13** shows the observed trip generation for the existing Brown Strauss facility, which is used in this analysis for the Proposed Project trip generation.

**Table 13 – Trip Generation**

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Source[1] | Quantity[2] | AM Peak Hour | | | PM Peak Hour | | | Daily |
| | | | In | Out | Total | In | Out | Total | |
| Existing Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 2 | 3 | 5 | 2 | 2 | 4 | 19 |
| Trucks (3-Axle) | | | 2 | 0 | 2 | 0 | 0 | 0 | 4 |
| Trucks (4+-Axle) | | | 5 | 3 | 8 | 2 | 0 | 2 | 69 |
| Total | | | 12 | 10 | 22 | 4 | 6 | 10 | 191 |

| Trips Generated in Passenger Car Equivalents[3] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Existing Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 3 | 5 | 8 | 3 | 3 | 6 | 29 |
| Trucks (3-Axle) | | | 4 | 0 | 4 | 0 | 0 | 0 | 8 |
| Trucks (4+-Axle) | | | 15 | 9 | 24 | 6 | 0 | 6 | 207 |
| Total | | | 25 | 18 | 43 | 9 | 7 | 16 | 343 |

| Trips Generation Rates Per Acre | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | Source[1] | Quantity[2] | AM Peak Hour | | | PM Peak Hour | | | Daily |
| | | | In | Out | Total | In | Out | Total | |
| Existing Facility | Counts | 1.0 AC | | | | | | | |
| Passenger Cars | | | 0.13 | 0.17 | 0.30 | 0.00 | 0.17 | 0.17 | 4.30 |
| Trucks (2-Axle) | | | 0.09 | 0.13 | 0.22 | 0.09 | 0.09 | 0.18 | 0.83 |
| Trucks (3-Axle) | | | 0.09 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.17 |
| Trucks (4+-Axle) | | | 0.22 | 0.13 | 0.35 | 0.09 | 0.00 | 0.09 | 3.00 |
| Total | | | 0.52 | 0.43 | 0.95 | 0.17 | 0.26 | 0.43 | 8.30 |

Notes:

1. Traffic counts at project driveway (see Tables 2 and 3).
2. AC = Acres
3. Source: City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021).
4. The ITE Trip Generation Manual does not include pass-by rates for Land Use Code 937; however, the average pass-by rates for ITE Land Use Code 938 (Coffee Shop With Drive Through Window and No Indoor Seating) are 90% during the AM peak hour and 98% during the PM peak hour. Although the proposed coffee shop (with drive-through and indoor seating) is expected to have similar pass-by characteristics, this analysis uses a lower pass-by rate of 80% to provide a conservative assessment.

2-Axle = 1.5; 3-Axle = 2.0; 4+-Axle = 3.0

As shown in **Table 13**, the Proposed Project is expected to generate approximately 191 daily vehicle trips based on the average trip counts observed at the existing Brown Strauss Steel

facility, including 22 vehicle trips during the AM peak hour and 10 vehicle trips during the PM peak hour.

In accordance with industry practice and City requirements for truck-oriented uses, the existing Brown Strauss facility trip generation was also calculated in terms of Passenger Car Equivalent (PCE) trips. Truck trips were converted to PCE trips based on the following factors recommended by the City of Banning Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis (October 2021): 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with four or more axles.

As also shown in **Table 13**, the existing Brown Strauss facility currently generates approximately 343 daily PCE trips, including 43 PCE trips during the AM peak hour and 16 PCE trips during the PM peak hour.

## *Environmental Setting*

The Project Site is approximately 14.92 gross acres and is currently unimproved land located within an area developed with industrial and non-conforming rural residential land uses. The Proposed Project consists of a 42,510 SF warehouse, a 3,434 SF administrative office, two 500 SF enclosed saw sheds, outdoor storage yard, and associated parking, landscaping, and road improvements. Regional roadway access to the Project Site is provided by the I-10 Freeway to the north and State Road 243 to the east of the Project Site. Lincoln Street is identified as an arterial street in the General Plan Circulation Element. The Proposed Project is anticipated to be constructed and fully operational by year 2025.

*Rail Connection*

The Proposed Project is also designed to incorporate a rail spur connection to the Union Pacific railroad to the north of the Project Site (**Figure 5**). Brown Strauss is still in discussion with Union Pacific and the California Public Utilities Commission regarding the feasibility of a service connection to the railroad line. Therefore, traffic analysis has been designed to account for potential impacts of a “rail” and “no-rail” option in the event that permission is not granted for construction of the rail spur.

*Truck Routes*

The City of Banning is currently updating the General Plan Circulation Element, which will include a new General Plan Truck Route System map. This map identifies Lincoln Avenue as a designated truck route between Sunset Avenue to the west and Hargrave Street to the east. Truck route connections to I-10 are located at S. 22$^{nd}$ Avenue to the west and S. 8$^{th}$ Avenue to the east of the Project Site.

*Public/Mass Transit*

The Riverside Transit Authority (RTA) operates 29 fixed bus routes providing public transit service throughout a 2,500 square mile area of Western Riverside County. Other public transportation available in the region includes Greyhound Bus Lines, Amtrack Passenger Rail Service and Metrolink. The RTA operates Route 31 within 1 mile of the Project vicinity. In

addition, the Banning Connect Transit System operates multiple bus routes throughout the City, consistent with the FY2020/2021 – FY2022-2023 City of Banning Short Range Transit Plan. The closest stop is located at N. 8th Avenue and Ramsey Street, approximately 0.6 miles from the Project Site.

*Bicycle and Pedestrian Facilities*

There are currently no bike lanes along W. Lincoln adjacent to the Project Site. The existing General Plan Circulation Element does not include a bike route master plan, and the City does not currently have an adopted Active Transportation Plan. In addition, the County of Riverside Pass Area Trails and Bikeway Systems does not show proposed bicycle lanes on Lincoln Street along the Project Site frontage. The Proposed Project includes a 0.69-acre right-of-way dedication along W. Lincoln Street for development of the street per the City of Banning engineering standard for an arterial street, with an ultimate width of 50 feet.

Sidewalks are not currently provided on W. Lincoln Street along the Project Site frontage but would be constructed with the Proposed Project as part of the required right-of-way improvements.

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **XVII. TRANSPORTATION:** Would the project: | | | | |
| a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | | | X | |
| b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)? | | | X | |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | | | X | |
| d) Result in inadequate emergency access? | | | X | |

*a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?*

**Less Than Significant Impact.** The City of Banning General Plan Circulation Element governs the circulation system in the vicinity of the Project Site.

*City of Banning General Plan*

The City of Banning General Plan was established to provide a safe, convenient and efficient transportation system for the City. In order to meet this objective, the Circulation Element has been designed to accommodate the anticipated transportation needs based on the estimated intensities of various land uses within the region.

General Plan Buildout

The Project Site is composed of the following three parcels:

- APN 540-190-020 (2.45 acres): Currently designated Industrial (I) - no change proposed
- APN 540-180-026 (8.17 acres): Currently designated Industrial (I) - no change proposed
- APN 540-180-022 (4.30 acres): Currently designated General Commercial (GC) - proposed amendment to Industrial (I)

**Table 14** shows a trip generation comparison between maximum buildout potential of the existing General Commercial (GC) and proposed Industrial (I) land use designations based on rates obtained from the ITE Trip Generation Manual (11th Edition, 2021). Based on review of the ITE land use description, trip generation rates for shopping plaza (40k-159k) (Land Use Code 821) and general light industrial (Land Use Code 110) were determined to adequately represent the existing and proposed land use designations and were selected for use in this analysis. These land use codes most closely correspond with the General Plan land use designations. The trip generation forecast is determined by multiplying the trip generation rates by the land use quantities.

**Table 14 – General Plan Amendment Trip Generation Comparison**

| Trip Generation Rates | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Land Use** | Source[1] | Unit[2] | AM Peak Hour | | | PM Peak Hour | | | Daily |
| | | | % In | % Out | Rate | % In | % Out | Rate | |
| Shopping Plaza (40-150k) | ITE 821 | TSF | 62% | 38% | 3.53 | 48% | 52% | 9.03 | 94.49 |
| General Light Industrial | ITE 110 | TSF | 88% | 12% | 0.74 | 14% | 86% | 0.65 | 4.87 |

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Land Use** | Quantity[3] | Unit[2] | AM Peak Hour | | | PM Peak Hour | | | Daily |
| | | | % In | % Out | Total | % In | % Out | Total | |
| Existing Land Use Shopping Plaza (40-150k) | 65.558 | TSF | 143 | 88 | 231 | 284 | 308 | 592 | 6,195 |
| Proposed Land Use General Light Industrial | 112.385 | TSF | 73 | 10 | 83 | 10 | 63 | 73 | 547 |
| NET PROJECT TRIPS GENERATED | | | -70 | -78 | -148 | -274 | -245 | -519 | -5,648 |

Notes:

(1) ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code

(2) TSF = Thousand Square Feet (Gross Floor Area)

(3) The City of Banning Municipal Code Table 17.12.030 states that General Commercial (GC) has a maximum building coverage of 35% and Industrial (I) has a maximum building coverage of 60%. Parcel 540-180-022 is zoned as General Commercial (GC) and is 4.3 acres (187,308 square feet). This zone at a maximum of 35% General Commercial (GC) equates to 65,558 square feet and at a maximum of 60% Industrial (I)equates to 112,385 square feet.

As shown in **Table 14**, maximum buildout under the existing General Commercial (GC) land use designation is estimated to generate approximately 6,195 daily trips, including 231 trips during the AM peak hour and 592 trips during the PM peak hour. Maximum buildout under the proposed Industrial (I) land use designation is estimated to generate approximately 547 daily trips, including 83 trips during the AM peak hour and 73 trips during the PM peak hour. Therefore, the proposed General Plan Amendment for APN 540-180-022 is expected to result in approximately 5,648 fewer daily trips generated compared to maximum buildout under the existing General Commercial (GC) land use designation, including 148 fewer trips during the AM peak hour and 519 fewer trips during the PM peak hour.

Since maximum potential buildout of APN 540-180-022 is forecast to generate fewer trips with the proposed Industrial (I) land use designation compared to the existing General Commercial (GC) land use designation, the proposed General Plan Amendment would not exceed impacts associated with buildout of the current General Plan.

Truck Routes

W. Lincoln Street is designated by the City as a designated Truck Route, from I-215 to the west to Redlands Avenue to the east. All truck access would be from W. Lincoln Street, with access to I-10 via S. 8th Avenue and S. 22nd Avenue, both all designated truck routes. Therefore, the Proposed Project is consistent with the truck routes identified in the Circulation Element of the General Plan.

Public/Mass Transit

RTA and Banning Connect Transit System both operate bus routes within the City of Banning. No bus stops have been identified to be placed along W. Lincoln Street. Therefore, the Proposed Project is consistent with this aspect of the General Plan. Should future bus stops be sited along W. Lincoln Street, the right-of-way improvements undertaken as part of the Proposed Project will allow for adequate pedestrian and bike access to the bus stop.

Bicycle and Pedestrian Facilities

There are currently no existing bicycle lanes along Harley Knox Boulevard adjacent to the Project Site. The Proposed Project shall dedicate 0.69 acres to the City of Banning for improvement of W. Lincoln Street to its ultimate right-of-way along the frontage of the property. There is adequate dedication along W. Lincoln Street for the City to install a bike lane in the future, should the City adopt a bike master plan or Active Transportation Plan inclusive of these improvements. Therefore, the Proposed Project is consistent with the objectives to support bikeways near the Project Site.

Sidewalks are not currently provided on W. Lincoln Street along the Project Site frontage but would be constructed with the Proposed Project as part of the required right-of-way improvements.

Roadway Operations

The intersection Levels of Service for Opening Year Conditions (2025) and Opening Year Conditions With Project (2025) are shown in **Appendix J, Table 5**. As shown in Table 5, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year Conditions (2025), except for the following study intersection that is forecast to operate at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

As shown, the addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the Proposed Project is forecast to cause no substantial operational deficiencies at the study intersections for Opening Year Conditions With Project (2025).

The intersection Levels of Service for Cumulative Conditions (2025) and Cumulative Conditions with Project (2025) are analyzed in **Appendix J, Table 6**. As analyzed, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for

Cumulative Conditions (2025), except for the following study intersection that is forecast to operate unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

As shown, the addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the Proposed Project is forecast to cause no substantial operational deficiencies at the study intersections for Cumulative Conditions With Project (2025).

The Proposed Project is consistent with the programs, plans, ordinances, and policies that address the circulation system, including transit, roadways, bicycle and pedestrian facilities. Therefore, potential impacts associated with the circulation system would be less than significant, and no mitigation would be required.

*b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

**Less Than Significant Impact.** CEQA Guidelines Section 15064.3 provides that transportation impacts of projects are, in general, best measured by evaluating the Proposed Project's VMT. Automobile delay (LOS) will no longer be considered to be an environmental impact under CEQA.

As such, the City of Banning adopted its TIA Guidelines in 2020 to help ensure that land use development and transportation projects comply with the latest CEQA requirements regarding VMT. These guidelines include a CEQA Assessment for VMT analysis and lists the VMT thresholds, screening tools, and methodologies. The City also maintains LOS policies as part of the General Plan and discretionary review process, which is separate and apart from the environmental analysis.

A trip generation evaluation and VMT screening analysis consistent with the City's TIA Guidelines was prepared for the Proposed Project (**Appendices J and K**).

The VMT study (**Appendix K**) identified the following criteria as it relates to the Project:

| | | |
|---|---|---|
| 1) | Located in a Transit Priority Area? | No |
| 2) | Meet Low VMT Area Screening Criteria? | No |
| 3) | Is Local-Serving Retail? | No |
| 4) | Is a Redevelopment Project? | No |
| 5) | Meets Project Type Screening Criteria? | No |
| 6) | Has Net Daily Trips Less than 500/1,000 Screening Level? | Yes |

Projects that generate fewer than 500 average daily vehicle trips (ADT) (for projects requiring a General Plan Amendment [GPA]) and fewer than 1,000 average daily vehicle trips (for projects that do not require a GPA) would not cause a substantial increase in the total citywide or

regional VMT and are therefore presumed to have a less than significant impact on VMT. Projects which generate less than 500 ADT (for projects requiring a GPA) include the following:

- Single Family Residential – 52 dwelling units or fewer
- Low-Rise Multi-Family Residential – 68 dwelling units or fewer
- Mid-Rise Multi-Family Residential – 91 dwelling units or fewer
- Office – 51,334 square feet of less
- Light Industrial – 100,806 square feet or less
- Warehousing/Distribution – 287,356 square feet or less
- High-Cube Transload and Short-Term Storage Warehouse/Distribution – 357,142 square feet or less
- High-Cube Fulfillment Center – 118,652 square feet or less

The Proposed Project is classified as a Light Industrial Use. While it does require a General Plan Amendment, the Proposed Project is forecast to generate fewer than 500 daily vehicle trips based on trip generation calculations. Therefore, the Proposed Project satisfies the City-established screening criteria for projects forecast to generate fewer than 500 net daily trips. Therefore, the Proposed Project is presumed to have a less than significant impact on VMT since it satisfies one or more of the VMT screening criteria established by the City of Banning, potential impacts associated with a conflict or is inconsistency with State CEQA Guidelines Section 15064.3, subdivision (b) would be less than significant, and no mitigation would be required.

*c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

**Less Than Significant Impact.** The Proposed Project includes 0.69 acre of dedication of road right-of-way on W, Lincoln Street, consistent with the City's Engineering requirements. The Proposed Project does not involve any design features that would increase traffic hazards due to geometric design.

A driveway spacing analysis was performed in order to ensure that circulation in and out of the Project Site will be facilitated without conflict between passenger vehicles, delivery trucks, and general roadway traffic. As shown in **Figure 16** – *Project Driveway Spacing*, the central-west project driveway is located approximately 133 feet from the westernmost inbound truck only driveway and 115 feet from the outbound truck only driveway. The easternmost project driveway aligns with 12th Street and is proposed to provide truck egress only. Based on the relatively low turning movement volumes generated by the project, separation of passenger car and truck accesses, and separation of inbound and outbound trucks, the Proposed Project driveways are expected to function adequately.

Employee auto parking is located along the south side of the building in a dedicated employee parking lot, with trailer parking within the outdoor storage area at the north side of the Project Site. The parking configuration places workers near the building, and separate driveway entrances allow workers to avoid cross truck traveled ways to enter and exit the outdoor storage yard and warehouse.

The west driveway serves as the truck egress into the Project Site. The driveway is 79 feet in length and 26 feet in width and is secured by a rolling date, beyond which the driveway extends an additional 88 feet before turning right into the outdoor storage yard. Queuing at the proposed access gate on the westernmost truck ingress only driveway was evaluated to ensure adequate storage lengths are provided and vehicle queues do not overflow into the public right-of-way or obstruct on-site circulation. Based on the queuing analysis, the TIA recommended that the west access driveway gate should remain open during business hours, or the driveway gates be moved farther into the site, to allow for a minimum of 100 feet of queuing area to avoid potential for trucks to queue on W. Lincoln Street to enter the property. The driveway gates shall remain open during business hours, and the entire length of the driveway will be available for trucks to queue while waiting to enter the facility. Therefore, the Proposed Project meets this design recommendation.

The Proposed Project does not include a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses. The Proposed Project would not create hazards or conflicts between pedestrians and vehicles internally, nor would it create a conflict between autos and trucks for ingress and egress. Therefore, potential impacts associated with hazards or incompatible uses would be less than significant, and no mitigation would be required.

*d) Would the project result in inadequate emergency access?*

**Less Than Significant Impact.** The Proposed Project is required to comply with the City's development review process including review by the County Fire Department for compliance with all applicable fire code requirements for construction and access to the Project Site. The access and circulation features within the Project Site would accommodate emergency ingress and egress by fire trucks, police units, and ambulance/paramedic vehicles. Emergency vehicles would enter the Project Site using either the west driveway truck entrance or the parking lot vehicle access on W. Lincoln Street. The internal circulation includes an ample area that can accommodate vehicle delivery trucks as well as fire trucks. The roadway paving and design as well as the final design plans for the Project Site's ingress and egress will be reviewed by the City Engineer for appropriate width and lanes. All access lanes will meet City requirements pursuant to the Uniform Building and Fire Code to ensure adequate emergency access throughout the Project Site.

Each of the Proposed Project's driveways would be designed and constructed to City standards and comply with City width, clearance, and turning-radius requirements. The Project Site would be accessible to emergency responders during construction and operation of the Proposed Project and would not result in inadequate emergency access. Therefore, potential impacts

associated with inadequate emergency access would be less than significant, and no mitigation would be required.

### *Mitigation Measures*

No mitigation measures associated with impacts to Transportation apply to the Proposed Project.

### *Conclusion*

Potential impacts of the Proposed Project associated with Transportation would be less than significant, and no mitigation would be required.

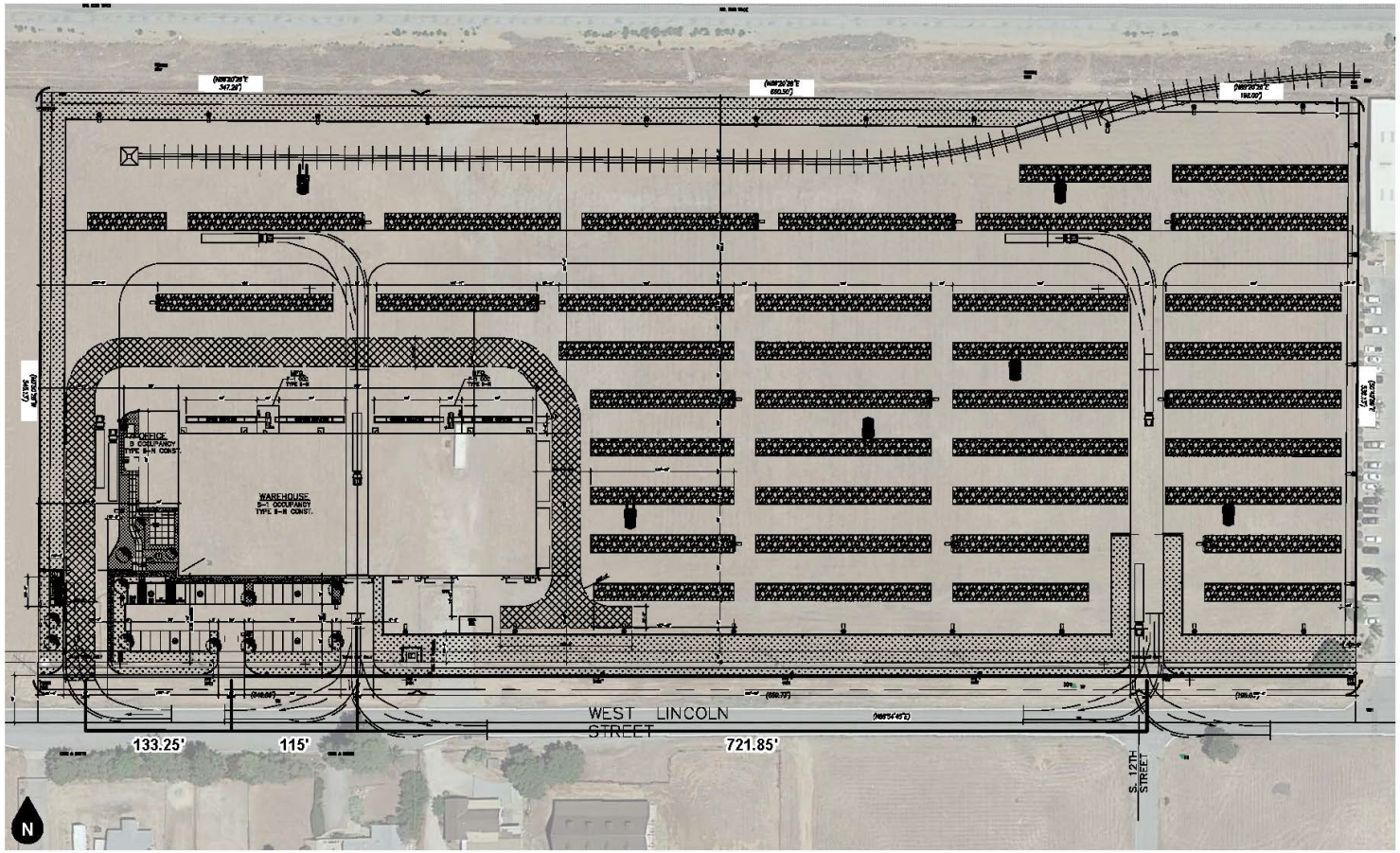



**Figure 29**
**Project Driveway Spacing**



Figure 16: Project Driveway Spacing
Source: *Gandini Group Traffic Impact Analysis*

## 4.18 Tribal Cultural Resources

Cogstone prepared a Cultural and Paleontological Resources Assessment for the Proposed Project (**Appendix C** - *Cultural and Paleontological Resources Assessment Report for the Harley Brown Strauss Industrial Project*, Cogstone, May 2023). The assessment addressed the ethnographic and archaeology of the Native American occupation in the City of Banning.

*Senate Bill 18 (SB 18)*

Senate Bill 18 (SB 18) requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process. Consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

SB 18 uses the term, California Native American tribe, and defines this term as "a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the Native American Heritage Commission" (NAHC). All California Native American tribes, whether officially recognized by the federal government or not, represent distinct and independent governmental entities with specific cultural beliefs and traditions and unique connections to areas of California that are their ancestral homelands. SB 18 recognizes that protection of traditional tribal cultural places is important to all tribes, whether federally recognized or not, and it provides all California Native American tribes with the opportunity to participate in consultation with city and county governments for this purpose.

*Assembly Bill 52 (AB 52)*

Assembly Bill 52 (AB 52), signed into law in 2014, amended CEQA and established new requirements for tribal notification and consultation. AB 52 applies to all projects for which a notice of preparation or notice of intent to adopt a negative declaration/mitigated negative declaration is issued after July 1, 2015. AB 52 also broadly defines a new resource category of tribal cultural resources and established a more robust process for meaningful consultation that includes:

- Prescribed notification and response timelines;
- Consultation on alternatives, resource identification, significance determinations, impact evaluation, and mitigation measures; and
- Documentation of all consultation efforts to support CEQA findings.

A tribe must submit a written request to the relevant lead agency if it wishes to be notified of projects within its traditionally and culturally affiliated area. The lead agency must provide written, formal notification to the tribes that have requested it within 14 days of determining that a project application is complete or deciding to undertake a project. The tribe must respond to the lead agency within 30 days of receipt of the notification if it wishes to engage in consultation on the Proposed Project, and the lead agency must begin the consultation process

within 30 days of receiving the request for consultation. Consultation concludes when either 1) the parties agree to mitigation measures to avoid a significant effect, if one exists, on a tribal cultural resource, or 2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. AB 52 also addresses confidentiality during tribal consultation per Public Resources Code §21082.3(c). *City of Banning Tribal Consultation*

On August 3, 2023 the City of Banning notified tribal entity representatives of the Proposed Project and the 30-day timeframe in which to request consultation in accordance with AB52 and SB18.

Of the tribes contacted, the following responses were received:

- Luz Salazar, Cultural Resources Analyst, Agua Caliente Band of Cahuilla Indians. Consultation is ongoing.
- Bernadette Ann Brierty, Tribal Historic Preservation Officer, Morongo Band of Mission Indians. Consultation is ongoing.

## *Environmental Setting*

A review of the ethnographic literature identifies the Project Area as being within the traditional territory of the Cahuilla (**Appendix C**, Figure 5; Strong 1929; Bean 1978:576) while others identify the area as being within Serrano Territory (**Appendix C,** Figure 6; Benedict 1924). Locating the tribal use of the Project Area is further complicated by Spanish colonization and the displacement of the Native American communities through the American Period.

*CAHUILLA*

The Cahuilla occupied the San Gorgonio Pass (referred to as the Pass Cahuilla), San Jacinto and Santa Rosa Mountains (Mountain Cahuilla), and the Coachella Valley and the northern end of Imperial Valley (Desert Cahuilla). The Project Area is identified as being within Pass Cahuilla Territory (**Appendix C**, Figure 7). The Cahuilla are linked to other Takic language family groups such as the Serrano and Luiseño and share many aspects of culture and religion with those tribes.

Each person's primary identity was linked to clan lineage and moiety rather than overall tribal affiliation. The two moieties of the Cahuilla were Istam (coyote) and Tuktum (wild cat). Affiliation was inherited from the father's moiety and members of one moiety had to marry into the other group. Each clan was an independent, politically autonomous land-holding unit (Bean and Saubel 1972; Bean 1978; Strong 1929).

In addition to lineage residence areas and clan territory owned in common with other clan members, each lineage had ownership rights to various food collecting and hunting areas. Individuals also "owned" specific areas rich in plant resources, as well as hunting grounds, rock quarry locations, and sacred spots used only by shamans, healers, and ritual practitioners.

Cahuilla clans varied in size from several family groups to those composed of several thousand people. Clans were generally situated so that each lineage or community was located near a reliable water source and in proximity to significant food resources. Within each community,

house structures were spatially placed at some distance from each other. Often a community would spread over a mile or two in distance with each nuclear and extended family having homes and associated structures for food storage and shaded work places (ramadas) for tool manufacture and food processing. Each community also contained a house clan leader.

In more recent times, a ceremonial house (kishumnawat) was placed within each community, and most major religious ceremonies of the clan were held there. In addition, house and ceremonial structures, storage granaries, sweat houses, and song houses (for recreational music) were present. Usually an area within one to three miles contained the bulk of materials needed for daily subsistence, although territories of a given clan might be larger, and longer distances were traveled to get precious exotic resources, usually found in the higher elevations of the surrounding mountains.

While most daily secular and religious activities took place within the community, there were locations at some distance from the community where people camped for extended periods to harvest acorns or piñon nuts. Throughout the area, there were sacred places used primarily for rituals, intergroup or inter-clan meetings, caches for sacred materials, and locations for use by shamans or medicine men. Generally, hilly, rocky areas, cave sites, or walled cave sites were used for temporary camping, storage of foods, fasting by shamans, and as hunting blinds.

Between the mid-1500s and the 1800s, the Cahuilla were variously contacted by Spanish explorers, then Mexican ranchers, and later American settlers. By the mid-1800s, the Cahuilla were fully exposed to new peoples with new cultural ways, opportunities, and constraints. In the 1860s, several epidemics devastated the Cahuilla population and the increasing contact with Europeans continued to have a major impact on their traditional lifeway. Survivors of decimated Cahuilla clans joined villages that were able to maintain their ceremonial, cultural, and economic institutions (Bean 1978). Today there are 2,996 (alone) people who identify as Cahuilla (4,238 in any combination) according to the 2010 United States Census (United States Census Bureau 2006-2010).

*SERRANO*

The name Serrano comes from a Spanish word meaning “mountaineer” or “highlander” because their villages were located within the San Bernardino Mountains as well as its northern and southern slopes. The Serrano designation also includes the Kitanemuk, Vanyume, and Alliklik communities (Strong 1929:5). In addition to the San Bernardino Mountains and its foothills, Serrano territory extended south to Yucaipa Valley, east to the Mojave River watershed, and north to the Twentynine Palms region (Bean and Smith 1978:570). The Serrano language is part of the Takic subfamily of the larger Uto-Aztecan language family. The traditional name used to identify the Serrano is Maara’yam.

Historically, the Serrano were nomadic and migrated to the cool, pine forests of the San Bernardino Mountains during the summer and returned to the desert regions during the winter. Most Serrano village sites were located in the foothills of the upper Sonoran zone with a few outliers located near permanent water sources on the desert floor, or in the forest transition zone (Bean and Smith 1978:570).

The Serrano traded with the Mojave to the east and the Gabrielino/Tongva to the west. They also traded with their close neighbors, the Cahuilla in the San Jacinto and Santa Rosa Mountains, the Banning Pass area, and the greater Coachella Valley. In addition, the Serrano traded with the Chemehuevi who occupied the lower Colorado River region, some of whom migrated westward towards the Project study area.

Prior to European contact, the Serrano were primarily hunters and gatherers. Women were responsible for most of the gathering and acorns, piñon nuts, and mesquite beans were collected as staple foods. Spring cactus fruits and berries were consumed fresh for both food and water. Flower blossoms were roasted and eaten. Yucca blossoms and stalks were blanched before being eaten. Roots were used for food and medicine, and leaves and stems were used for making tea. Digging sticks were frequently used to dig for plants and roots for subsistence and medicinal purposes (Johnston 1965:8). One main seed resource was chia, and stands of chia were periodically burned in order to increase yield. Other major plant foods included mesquite beans and the nuts from piñon pine and acorn. Acorns were leached by placing baskets of pounded and shelled acorn meal into a sandy hole with just enough water to allow the dissolved tannic acid to seep out. Other plant seeds were parched and made into a mush by boiling or cooking and dropping a heated stone into a water-tight basket filled with seeds and water. Some seeds were dried and stored in baskets. Baskets were made from willow and mesquite branches and woven with bone awls.

Because of their migratory nature, the Serrano and neighboring tribes “cached” many of their possessions and provisions instead of transporting these often heavy items long distances. These “caches” were guarded by “spirit sticks” that were left upright adjacent to the cache. Today there are 324 (alone) people who identify as Serrano (514 in any combination) according to the 2010 United States Census (United States Census Bureau 2006-2010).

## *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **XVIII. TRIBAL CULTURAL RESOURCES:** | | | | |
| Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | | | | |
| a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or | | X | | |
| b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | | X | | |

## *Discussion*

*a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

**Less Than Significant Impact with Mitigation Incorporated.** According to PRC Chapter 2.5, Section 21074, Tribal Cultural Resources are sites, features, places, cultural landscapes, sacred places, and items with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources as defined in Section 5020.1.

No resources are listed on or have been identified as eligible for listing on the California Register of Historic Places within or near the Project Site and no known potential impacts to

Tribal Cultural Resources would occur. However, Project-specific mitigation measure **MM TCR-1** would be implemented to require monitoring during any ground disturbing activities on the Project Site and to avoid potential impacts to tribal cultural resources that may be unearthed by construction activities. The Agua Caliente Band of Cahuilla Indians and the Morongo Band of Mission Indians, as responsive parties during AB 52/SB 18 consultation, shall be considered "Monitoring Tribes" for the purposes of implementation of this mitigation measure. Project-specific mitigation measures **MM CR-2** and **MM TCR-2** would be implemented if any human remains – including Native American human remains – are unearthed by Project construction activities. Implementation of these measures will ensure that Project-specific impacts will be less than significant.

*b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

**Less Than Significant Impact with Mitigation Incorporated.** Tribal Cultural Resources are those resources with inherent tribal values that are difficult to identify through the same means as archaeological resources. These resources can be identified and understood through direct consultation with the tribes who attach tribal value to the resource. Tribal cultural resources may include Native American archaeological sites, but they may also include other types of resources such as cultural landscapes or sacred places. The appropriate treatment of tribal cultural resources is determined through consultation with tribes.

In accordance with the requirements of AB 52 and SB 18, on August 3, 2024, the City sent letters to Native American tribes that may have knowledge regarding tribal cultural resources in the project vicinity. Of the tribes notified, the Agua Caliente Band of Caihulla Indians and the Morongo Band of Mission Indians requested formal government-to-government consultation under AB 52. Consultation meetings are ongoing between the City and the tribal governments, and are expected to conclude prior to the Proposed Project proceeding to public hearings.

Although the cultural survey was negative for prehistoric resources and the cultural resources consultant did not recommend any type of monitoring for the project, the information provided by the Tribes regarding tribal cultural resources supports that the Project maintains sensitivity for tribal cultural resources to which the Tribes ascribe tribal value. In addition, the consulting tribes expressed concern that the project area is sensitive for cultural resources and there is the possibility that previously unidentified resources might be found during ground disturbing activities. Mitigation measures have been added to address a concern over the potential for

uncovering tribal cultural resources (TCRs) or other tribal affiliated resources during construction of the Project.

**MM CUL-1** has been included to address inadvertent discovery of archaeological resources during ground disturbing activities. In addition, **MM TCR-1** shall require on-site monitoring by "Monitoring Tribes" during ground disturbing activities on the Project Site. Furthermore, **MM CR-2 and MM TCR-2** address treatment of discovery of human remains and reburial of any Native American human remains and associated grave goods with the requirement for consideration for cultural practices and anonymity.

## *Mitigation Measures:*

**MM TCR-1**

Prior to the issuance of a grading permit, at least 30 days prior to the issuance, the applicant shall contact the consulting Native American Tribe(s) that have requested monitoring through consultation with the City during the AB 52 and/or the SB 18 process ("Monitoring Tribes"). The applicant shall coordinate with the Tribe(s) to develop individual Tribal Monitoring Agreement(s). A copy of the signed agreement(s) shall be provided to the City of Banning Community Development Department, Planning Division prior to the issuance of a grading permit. The Agreement shall address the treatment of any known tribal cultural resources (TCRs) including the project's approved mitigation measures and conditions of approval; the designation, responsibilities, and participation of professional Tribal Monitors during grading, excavation and ground disturbing activities; project grading and development scheduling; terms of compensation for the monitors; and treatment and final disposition of any cultural resources, sacred sites, and human remains/burial goods discovered on the site per the Tribe(s) customs and traditions and the City's mitigation measures/conditions of approval. The Tribal Monitor will have the authority to stop and redirect grading in the immediate area of a find in order to evaluate the find and determine the appropriate next steps, in consultation with the Project archaeologist.

**MM TCR-2**

It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or associated grave goods shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, pursuant to the specific exemption set forth in California Government Code 6254 (r), parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code 6254 (r).

## *Conclusion*

Implementation of mitigation measures **MM CR-2, MM TCR-1** and **MM TCR-2** would reduce potential impacts of the Proposed Project associated with Tribal Cultural Resources to less than significant levels.

## 4.19 Utilities and Service Systems

### *Environmental Setting*

Water and sewer services would be served by the City of Banning Public Works-Utilities Department and Wastewater Division, electrical service is readily available in the vicinity through Banning Electric Utility (BEU), and natural gas is available through Southern California Gas Company (SoCalGas).

### *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **XIX. UTILITIES AND SERVICE SYSTEMS:** Would the project: | | | | |
| a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | | | X | |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | | | X | |
| c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | | | X | |
| d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? | | | X | |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | | | X | |

## *Discussion*

*a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

**Less than Significant Impact.** The Proposed Project would interconnect to existing utilities available along the site frontage of W. Lincoln Avenue.

The approval of drainage features and other utility improvements occurs through the building plan check process. As part of this process, all project-related drainage features and utility infrastructure would be required to comply with City Municipal Code Chapter 15.44 (Public Improvements), Chapter 18.09.160 (Protection of Utilities), as well as Colorado River Basin RWQCB standards. On-site project-related drainage features would be designed, installed, and maintained by the Owner/Developer once the project is completed.

All proposed improvements and interconnection to drainage, electric power, water, and wastewater facilities would be installed simultaneously with finish grading activities and required project frontage improvements (curb, gutter, sidewalk, landscaping, streetlights, and trees) along W. Lincoln Avenue.

Based on the utilities' ability to serve the Proposed Project, and that the Proposed Project is designed consistent with existing drainage plans, the Proposed Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Impacts to utilities would be less than significant, and no mitigation would be required.

*b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

**Less than Significant Impact.** The City of Banning Public Works Department supplies water to the City and portions of unincorporated Riverside County located southwest of the City. The City's 2020 Urban Water Management Plan (UWMP) indicates that the City uses local groundwater to supply potable and non-potable water within its jurisdictional boundary. The City produces groundwater from the Coachella Valley Groundwater Basin (Basin). Several large subbasins, the boundaries of which are generally defined by fault lines that restrict the lateral flow of water, underlie the Basin. The City is underlain by the San Gorgonio Pass Subbasin (SGP Subbasin) portion of the Basin, which is divided into water storage units. The City relies on five sources of groundwater storage supply units which are not totally independent from each other, and include the Beaumont, West Banning, Banning Bench, Banning Water Canyon, and Cabazon Storage Units.

According to the City's 2020 UWMP, the City projects to have adequate supply to meet demand for the City's water service area through the year 2045 under Normal Year, Single-Dry Year, and Multiple-Dry Year conditions. Additionally, the City would implement various stages of its

Water Shortage Contingency Plan when necessary to reduce its water demand during Multiple-Dry Year conditions. The UWMP models each scenario based on the land use and zoning designations of the City and County. The Proposed Project includes a General Plan Amendment and Zone Change to rezone one parcel of the Project Site from General Commercial to Industrial. Industrial land uses are estimated to require less water demand than commercial uses. Therefore, water demand calculations in the UWMP adequately cover water demand for the Proposed Project, and sufficient water supplies would be available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Impacts would be less than significant, and mitigation is not required.

*c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

**Less than Significant Impact.** The City of Banning Public Works Department collects wastewater in the City and treats flows at the Banning Wastewater Reclamation Facility (WRF). The WRF intakes 2.0 million gallons/day (gpd) of wastewater and has a capacity of 3.5 million gpd. An existing sewer line is located on Lincoln Street/SR-243 and would serve the Project Site.

According to the City's 2018 Integrated Master Plan, industrial uses generate 750 gpd per acre. Based on this generation rate, the Proposed Project (14.27 net acres) would equate to an estimated 10,702.5 gallons per day. The amount of wastewater generated daily by the Proposed Project would equate to 0.71 percent of the current surplus treatment capacity of the Banning WRF. Based on the existing daily treatment capacity surplus and inflow of the Banning WRF, the project would be adequately served by wastewater conveyance and disposal. However, given the Proposed Project largely consists of outdoor storage yard, it is likely that this estimate overestimates the actual wastewater demand of the proposed operations given the employee staffing level.

Additionally, the project applicant would be required to pay Wastewater Facilities Development Impact Fees to the City prior to grading permit issuance pursuant to City Municipal Code Section 18.68.060. Impacts would be less than significant, and no mitigation required.

*d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

**Less than Significant Impact.** The City of Banning contracts with Waste Management Inland Empire for solid waste and disposal services. In addition to normal trash collection, the County of Riverside also sponsors several hazardous waste collection events throughout the year. Waste is transported to the Perris Transfer Station and Materials Recovery Facility located at 1706 Goetz Road. At this facility, recyclable materials are separated from solid wastes. Recyclable materials are sold in bulk and transported for processing and transformation for other uses. Solid waste produced from the Proposed Project would be transported to a variety of landfills. City of Banning is services by the following landfills according to CalRecycle (accessed 2023):

- Badlands Sanitary Landfill has a daily throughput of 5,000 tons with a remaining capacity of 7,800,000 cubic yards.
- El Sobrante Landfill has a daily throughput of 16,054 tons with a remaining capacity of 143,977,170 cubic yards.
- Lamb Canyon Sanitary Landfill has a daily throughput of 5,000 tons with a remaining capacity of 19,242,950 cubic yards.

Based on a generation rate of 6.7 pounds per employee per day (34 employees), the Proposed Project would generate 227.8 pounds of solid waste per day (CalRecycle). This amount is equivalent to as much as 0.0023 percent, 0.00071 percent, and 0.0023 percent of the daily throughput at Badlands Sanitary, El Sobrante, and Land Canyon Sanitary Landfills. Therefore, these receiving landfills have adequate capacity to serve the Proposed Project.

For operations, the Proposed Project will be served by a landfill with sufficient permitted capacity to accommodate the Proposed Project's solid waste disposal needs. The Badlands and El Sobrante Landfills, which would serve the Project Site, have the capacity to support the construction and operational waste expected from the Proposed Project. Therefore, potential impacts associated with solid waste production during operations would be less than significant, and no mitigation would be required.

*e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

**Less than Significant Impact.** The City of Banning contracts with Waste Management Inland Empire for solid waste and disposal services. Solid waste generated by the Proposed Project would be disposed of at a variety of landfills and transfer stations in Riverside County. Disposal of solid waste would be required to comply with all federal state, and local statutes and regulations related to solid waste, including the California Integrated Waste Management Act of 1989 (AB 939) and Part 11 of the Title 24 Building Energy Efficiency Standards (also referred to as CALGreen). This would include providing receptacles for green waste, recyclables, and garbage. Therefore, potential impacts associated with compliance with solid waste statutes and regulations would be less than significant, and no mitigation would be required.

## *Mitigation Measures*

No mitigation measures associated with impacts to Utilities and Service Systems apply to the Proposed Project.

## *Conclusion*

Potential impacts of the Proposed Project associated with Utilities and Service Systems would be less than significant, and no mitigation would be required.

## 4.20 Wildfire

### *Environmental Setting*

According to the City General Plan Environmental Hazards Element (Figure V-9) the Project Site is not located within a Local Responsibility Area and is not designated as a Very High Fire Hazard Severity Zone. The CAL FIRE "Fire Hazard Severity Zones in State Responsibility Areas" online map (CAL FIRE, accessed December 2023) shows the Project Site is not located within a State Responsibility Area.

### *Impact Analysis*

| CEQA THRESHOLDS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **XX. WILDFIRE:**<br>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones,<br>Would the project: | | | | |
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | | | X | |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire? | | | X | |
| c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | | | X | |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | | | X | |

## *Discussion*

*a) Substantially impair an adopted emergency response plan or emergency evacuation plan?*

**Less than Significant Impact.** The Project Site is not located within a Local or State Responsibility Area and is not designated within a High Fire Hazard Severity Zone (VHFHSZ). The nearest VHFHSZ is located approximately 0.8-mile southwest of the Project Site. The project is located in an area that is developed with local roads and regional highways that provide adequate access and departure from the area in the event of an emergency, such as a wildfire. Vehicular access to the Project Site would be provided via four driveway access points off of W. Lincoln Street consisting of two one-way gated driveways at opposite ends of the Project Site for truck and fire safety access. The proposed access is designed to comply with the current California Fire Code (2022 California Fire Code) standards for development for industrial uses, Banning Construction Code Standards, and standards as set forth by the Riverside County Fire Department (RCFD). Fire plan check would be required to ensure adequate service is provided. The Proposed Project would also be subject to review and compliance with the City's Building Code to ensure structural integrity of all proposed buildings.

Therefore, potential impacts associated with an adopted emergency response plan or emergency evacuation plan would be less than significant, and no mitigation would be required.

*b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

**Less than Significant Impact.** Areas of Southern California, including Riverside County and Banning, are subject to seasonal wind events including times during the fall when Santa Ana Wind conditions are prevalent. Santa Ana Wind conditions in the area of the Proposed Project typically blow from a northeast to southwest direction, with wind speeds that can exceed tropical storm forces in canyons and other geographically constrained areas. This can exacerbate fire hazard risks through drying of vegetation and uncontrollable expansion of fires when ignited in rural and urban areas.

The Project Site is not located within a Local or State Responsibility Area and is not designated within a VHFHSZ. The built environment surrounding the Project Site, with storage yards and non-conforming residential development to the south, and industrial warehouses to the east. The site is relatively flat and is not located within or near any hillside areas associated with the San Gorgonio Mountains. The Proposed Project would be subject to the standards and requirements set forth in the 2022 California Fire and Building Codes, which require structural resilience for all types of fire conditions. Therefore, potential impacts associated with exacerbating wildfire risk would be less than significant, and no mitigation would be required.

*c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

**Less than Significant Impact.** The Project Site is not located within a Local or State Responsibility Area and is not designated within a VHFHSZ. The Proposed Project is surrounded by built infrastructure including roads, utilities (electricity and gas), sewer lines, and waterlines and would not necessitate the construction of new infrastructure. Development of the Proposed Project does not include any additional infrastructure improvements that increase capacity beyond what is already planned for within the existing urban area. Therefore, potential impacts associated with the exacerbation of fire risk or result in temporary or ongoing impacts to the environment would be less than significant, and no mitigation would be required.

*d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

**Less than Significant Impact.** The Project Site is not located within a Local or State Responsibility Area and is not designated within a VHFHSZ. The built environment surrounding the Project Site, with storage yards and non-conforming residential development to the south, and industrial warehouses to the east. The site is relatively flat and is not located within or near any hillside areas associated with the San Gorgonio Mountains. The Project Site is also not located within a floodplain and the Preliminary WQMP is designed to with capacity to handle 100-year and 500-year storm events. The Proposed Project would be subject to the standards and requirements set forth in the 2022 California Fire Code and 2002 CBC. Therefore, potential impacts associated with the exposure of people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes would be less than significant, and no mitigation would be required.

## *Mitigation Measures*

No mitigation measures associated with impacts to Wildfire apply to the Proposed Project.

## *Conclusion*

Potential impacts of the Proposed Project associated with Wildfire would be less than significant, and no mitigation would be required.

## 4.21 Mandatory Findings of Significance

### *Impact Analysis*

| ENVIRONMENTAL IMPACTS | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact or Does Not Apply |
|---|---|---|---|---|
| **XXI. MANDATORY FINDINGS OF SIGNIFICANCE:** | | | | |
| a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | | X | | |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | | X | | |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | | X | | |

### *Discussion*

*a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

**Less Than Significant with Mitigation Incorporated.** The Project Site is vacant, contains no drainages, does not contain suitable habitat for any sensitive species, and would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation

Plan, other approved local, regional, or state habitat conservation plan. However, in order to comply with existing MBTA and MSHCP regulations, the Proposed Project will implement requires that projects comply with PVCCSP EIR mitigation measures **MM BIO-1** to reduce potential impacts to nesting birds and **MM BIO-2** to reduce potential impacts to burrowing owl to less than significant levels.

According to the Phase I Cultural Resources Assessment (Appendix C), no cultural resources have been recorded within the Project Site, and the Project Site does not contain any resources that are important to major periods of California history or prehistory. However, mitigation measure **MM CR-1** is recommended to manage unanticipated discoveries of archeological resources, **MM TCR-1** requires tribal monitoring during ground disturbing activities, and **MM CR-2 and MM TCR-2** to manage unanticipated discoveries of human remains. The Project Site is within a moderately sensitive area for potential paleontological resources based upon recorded fossil locality data for areas mapped as alluvial fan deposits of San Gorgonio Pass in and near the Project Area. Therefore, the Property Owner/Developer will be required to implement mitigation measure **MM GEO-1** to prepare a Paleontological Resource Impact Mitigation Monitoring Program (PRIMMP) and mitigation measure **MM GEO-2** to prepare a Worker Environmental Awareness Program (WEAP) to manage unanticipated discoveries of paleontological resources.

Implementation of these measures will ensure that Project-specific impacts would be less than significant.

With the implementation of mitigation measures **MM BIO-1, MM BIO-2, MM CR-1, MM CR-2, MM GEO-1, MM GEO-2, MM TCR-1** and **MM TCR-2** the Proposed Project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or an endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

*b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

**Less Than Significant with Mitigation Incorporated.** As presented in Sections 4.1 through 4.20, the project would have no impact, a less than significant impact, or a less than significant impact after mitigation with respect to all environmental issues (Refer to **Appendix L** for the Mitigation Monitoring and Reporting Program).

The Proposed Project is being developed consistent with the Banning General Plan Industrial land use designation and development standards for the Industrial zoning district. Although the potential exists for the Proposed Project to result in population growth through employment opportunities, the project is consistent with the General Plan land use designation and Zoning Code for the site. Therefore, population increase as a result of the Proposed Project would not

directly or indirectly induce growth in the City not contemplated and analyzed within the existing General Plan and associated environmental documents. Additionally, the Project Site is located within an urbanized area and would be connected to existing municipal roadways and utility infrastructure.

Impacts specified throughout this Initial Study are considered project-specific in nature due to the limited scope of direct physical impacts to the environment. Consequently, the project along with other cumulative projects would result in a less than significant cumulative impact with respect to all environmental issues, and no additional mitigation is required.

*c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

**Less Than Significant with Mitigation Incorporated.** All potential impacts of the Proposed Project have been identified, and mitigation measures have been provided, where applicable, to reduce potential impacts to less than significant levels. Upon implementation of mitigation measures, the Proposed Project would not result in substantial direct or indirect adverse impacts on human beings. Implementation of these measures will ensure that Project-specific impacts will be less than significant.

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# 6 REFERENCES

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# Appendix A

*Brown Strauss Industrial Project, Air Quality, Global Climate Change, HRA, and Energy Impact Analysis, City of Banning*

Ganddini Group

November 29, 2023

# Appendix B-1

*Brown Strauss Industrial Project, General Biological Resources Assessment*
Noreas Environmental Engineering and Science
July 2023

# Appendix B-2

*Brown Strauss Industrial Project, Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis*

NOREAS, Inc.

July 2023

# Appendix C

*Cultural and Paleontological Resources Assessment Report for the Brown Strauss Industrial Project*

Cogstone

May 2023

# Appendix D

*Geotechnical Investigation, Proposed Brown-Strauss Steel Facility, 1210 & 1431 West Lincoln Street, APN 540-180-020, 022 & 026, Banning, California*

Sladden Engineering

January 5, 2023

# Appendix E

Phase I Environmental Site Assessment Report, Banning Industrial
Terracon Consultants, Inc

September 1, 2022

# Appendix F

Riverside Airport Land Use Commission Development Review Determination

October 5, 2023

# Appendix G

*Preliminary Project Specific Water Quality Management Plan, Brown Strauss Steel—Banning*

Joseph E. Bonadiman & Associates, Inc.

March 8, 2023, Revised October 2023

# Appendix H

*Preliminary Hydrology Study and Drainage Analysis- Brown Strauss Steel*

Joseph E. Bonadiman & Associates, Inc.

November 2023

# Appendix I

*Preliminary Hydrology Study and Drainage Analysis- Brown Strauss Steel*
Joseph E. Bonadiman & Associates, Inc.
November 2023

# Appendix J

*Brown Strauss Industrial Project, Traffic Impact Analysis, City of Banning*

Ganddini Group

October 23, 2023

# Appendix K

*Brown Strauss Industrial Project Vehicle Miles Traveled Screening Assessment*

Ganddini Group

April 23, 2023

# Appendix L

*Draft Mitigation Monitoring and Reporting Program*

# BROWN STRAUSS BANNING INDUSTRIAL PROJECT AIR QUALITY, GLOBAL CLIMATE CHANGE, HRA, AND ENERGY IMPACT ANALYSIS

City of Banning

November 29, 2023



Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

# BROWN STRAUSS BANNING INDUSTRIAL PROJECT AIR QUALITY, GLOBAL CLIMATE CHANGE, HRA, AND ENERGY IMPACT ANALYSIS

City of Banning

November 29, 2023

*prepared by*
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Project No. 19588

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# EXECUTIVE SUMMARY

The purpose of this air quality, global climate change, health risk assessment, and energy impact analysis is to provide an assessment of the impacts resulting from development of the proposed Brown Strauss Banning Industrial project and to identify measures that may be necessary to reduce potentially significant impacts.

*Construction-Source Emissions*

Project construction-source emissions would not exceed applicable regional thresholds of significance established by the South Coast Air Quality Management District (SCAQMD). For localized emissions, the project will not exceed applicable Localized Significance Thresholds (LSTs) established by the SCAQMD.

Project construction-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). As discussed herein, the project will comply with all applicable SCAQMD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Given the temporary and short-term construction schedule, the project would not result in a long-term (i.e., lifetime or 30-year) exposure to TACs as a result of project construction. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds. Therefore, impacts from TACs during construction would be less than significant.

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less than significant.

*Operational-Source Emissions*

Project operational-sourced emissions would not exceed applicable regional thresholds of significance established by the SCAQMD. Project operational-source emissions would not result in or cause a significant localized air quality or toxic air contaminant (TAC) impacts as discussed in the Operations-Related Local Air Quality Impacts section of this report. Additionally, project-related trips will not cause or result in CO concentrations exceeding applicable state and/or federal standards (CO “hotspots). The Diesel Emissions Health Risk Assessment conducted for this project showed that DPM emissions from on-site off road equipment, project-related truck and rail trips will not cause a significantly elevated cancer risk or significant non-cancer-related health risk to nearby receptors. Project operational-source emissions would therefore not adversely affect sensitive receptors within the vicinity of the project.

Project operational-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). The project's emissions meet SCAQMD regional thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less than significant.

*Greenhouse Gases*

Project-related GHG emissions would not exceed the SCAQMD screening threshold of 10,000 $MTCO_2e$ per year for industrial uses.

Furthermore, the project's GHG emissions would not exceed the SCAQMD screening threshold (based on EO S-3-05). The project would not conflict with the goals of AB-32, SB-32, or the CARB Scoping Plan; therefore, the project would not conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases and impacts are considered to be less than significant.

*Energy*

For new development such as that proposed by the Brown Strauss Banning Industrial project, compliance with California Building Standards Code Title 24 energy efficiency requirements (CALGreen), are considered demonstrable evidence of efficient use of energy. As discussed below, the project would provide for, and promote, energy efficiencies required under other applicable federal and State of California standards and regulations, and in so doing would meet or exceed all California Building Standards Code Title 24 standards. Moreover, energy consumed by the project's operation is calculated to be comparable to, or less than, energy consumed by other industrial uses of similar scale and intensity that are constructed and operating in California. On this basis, the project would not result in the inefficient, wasteful, or unnecessary consumption of energy. Impacts are considered to be less than significant.

# 1. INTRODUCTION

This section describes the purpose of this air quality, global climate change, health risk assessment, and energy impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

## PURPOSE AND OBJECTIVES

This study was performed to address the possibility of regional/local air quality impacts and global climate change impacts, from project related air emissions. The objectives of the study include:

- documentation of the atmospheric setting
- discussion of criteria pollutants and greenhouse gases
- discussion of the air quality and global climate change regulatory framework
- analysis of the construction related air quality and greenhouse gas emissions
- analysis of the operations related air quality and greenhouse gas emissions
- discussion of the health risk impacts
- analysis of the conformity of the proposed project with the SCAQMD AQMP
- analysis of the project's energy use during construction and operation
- recommendations for mitigation measures

The City of Banning is the lead agency for this air quality and greenhouse gas analysis, in accordance with the California Environmental Quality Act authorizing legislation. Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with terms unique to air quality and global climate change, a definition of terms has been provided in Appendix A.

## PROJECT LOCATION

The 14.92-acre project site is located at 1219 and 1431 West Lincoln Street in the City of Banning, California. The project site is currently vacant. A vicinity map showing the project location is provided on Figure 1.

## PROJECT DESCRIPTION

The currently vacant site is proposed to be developed with a steel distribution use. The total development proposal includes a 45,000 square foot warehouse, a 3,000 square foot office, two 500 square foot enclosed saw sheds, and an outdoor storage yard. The project also involves a General Plan Amendment/Zone Change for a portion of the site from Industrial (I) and General Commercial (CC) to Industrial (I).

The warehouse would be utilized to store structural tube, structural channel and structural angle. The outdoor storage yard would be utilized to store wide flange beam and structural tube. Products inside the warehouse are moved via overhead cranes and products in the outdoor storage yard are moved via forklifts. Brown Strauss is primarily a distributor, buying structural steel products in bulk quantities from the steel mills and selling the same products in smaller quantities to steel fabricators. The proposed operation does not include a steel mill or foundry. Instead, the only manufacturing activity that Brown Strauss performs is to cut in products within the enclosed saw sheds. Less than 10 percent of customer orders are cut to length by Brown Strauss.

The project site is proposed to provide four access driveways on West Lincoln Street. The project west driveway will be a truck entrance only driveway. The project central-west driveway will be a full access automobile only driveway. The project central-east and east driveways will be truck exit only driveways. For purposes of this analysis, the proposed project is anticipated to be constructed and fully operational by year 2025.

Brown Strauss Steel currently operates a larger facility located at 14970 Jurupa Avenue in the City of Fontana. If the proposed Banning project is approved, the existing operation in Fontana will be closed and its operations will be moved to the proposed Banning location. Figure 2 illustrates the proposed site plan.

### Phasing and Timing

The proposed project is anticipated to be operational in 2025. The project is anticipated to be built in one phase with project construction anticipated to start no sooner than the beginning of July 2024 with completion estimated by the end of June 2025. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario even if construction was to occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[1]

### Sensitive Receptors in Project Vicinity

Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities (South Coast Air Quality Management District 2008). Commercial and industrial facilities are not included in the definition because employees do not typically remain on-site for 24 hours.

The nearest sensitive receptors to the project site include: the existing single-family residential land uses located as close as approximately 75 feet (~23 meters) south of the project site (along the southern side of Lincoln Avenue). Other air quality sensitive land uses are located further from the project site and would experience lower impacts.

[1] As shown in the California Emissions Estimator Model (CalEEMod) User's Guide Version 2020.4.0, Section 4.3.2 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

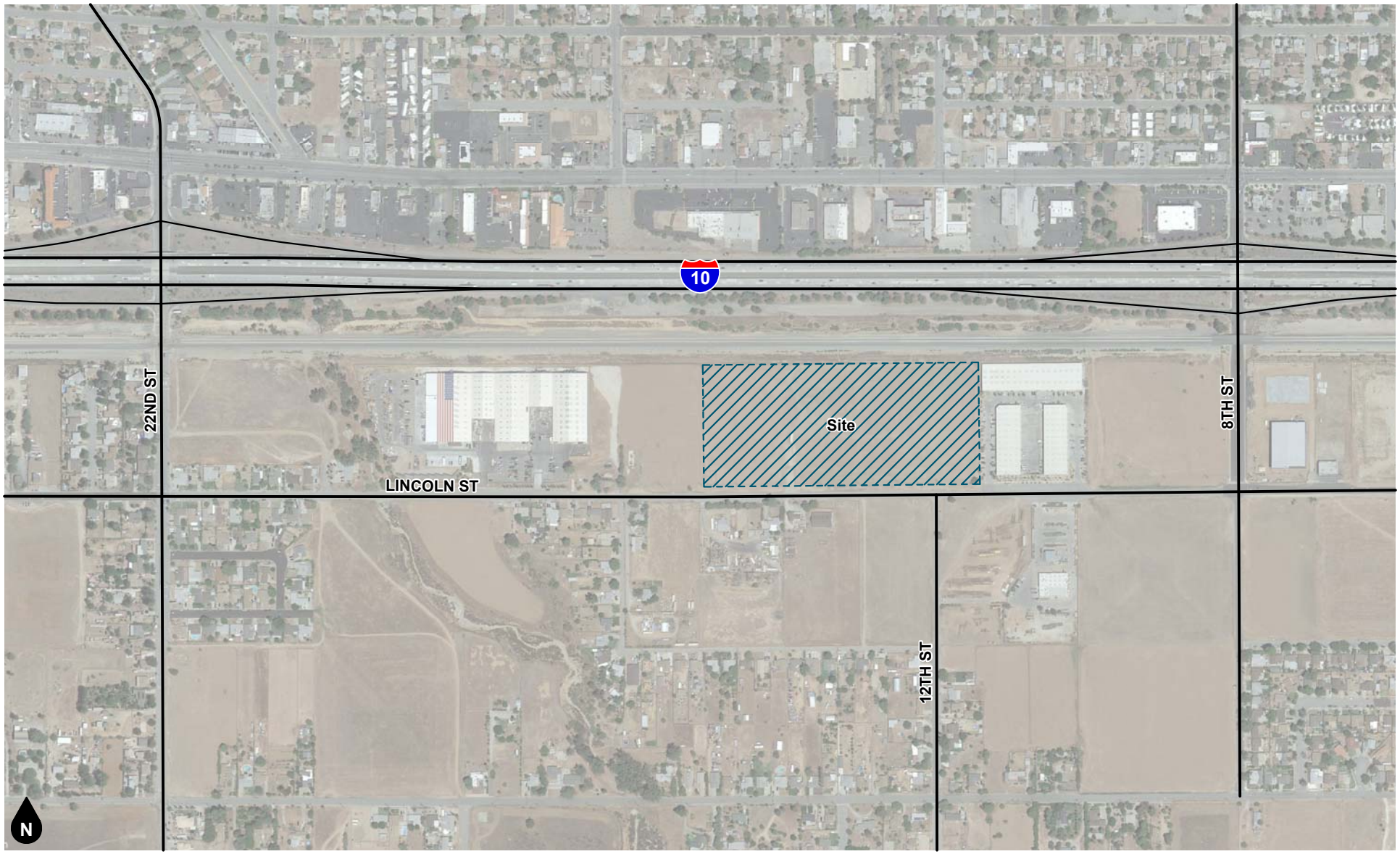


**Figure 1**
**Project Location Map**

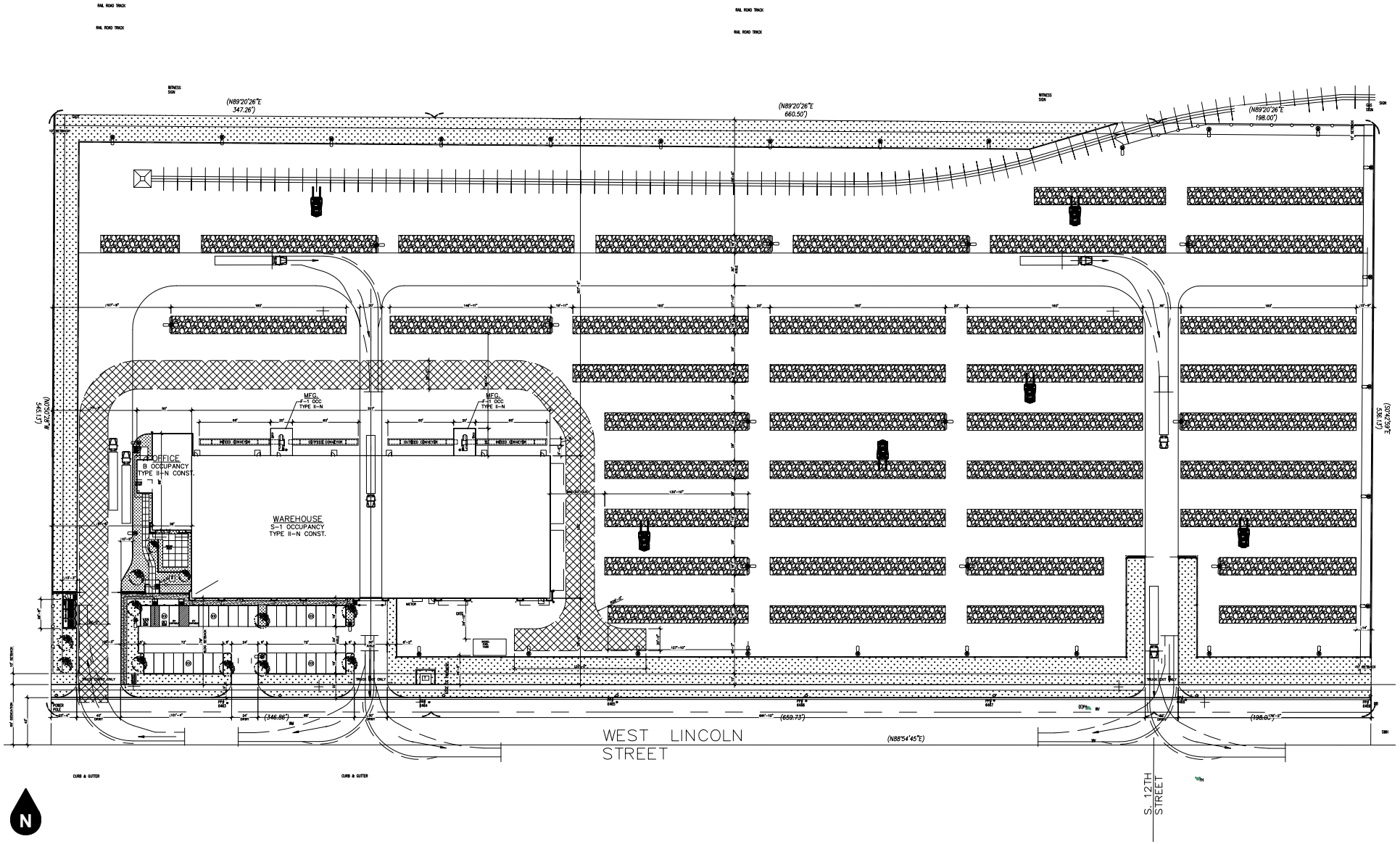


**Figure 2**
**Site Plan**

# 2. AIR QUALITY ANALYSIS

## EXISTING AIR QUALITY CONDITIONS

### Local Air Quality

The project is located within the City of Banning, within the portion of Riverside County that lies within the South Coast Air Basin (Basin). The project area is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The Basin is a 6,600-square-mile coastal plain bounded by the Pacific Ocean to the southwest and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, and all of Orange County.

The ambient concentrations of air pollutants are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. The topography and climate of southern California combine to make the Basin an area of high air pollution potential. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds.

The usually mild climatological pattern is disrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. In addition, light winds during the summer further limit ventilation. Furthermore, sunlight triggers the photochemical reactions that produce ozone. The region experiences more days of sunlight than any other major urban area in the nation except Phoenix (SCAQMD, 2007).

The temperature and precipitation levels for the City of Redlands, the closest station with updated data, are shown below in Table 1. Table 1 shows that August is typically the warmest month and December is typically the coolest month. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

**Table 1**
**Local Monthly Climate Data**

| Descriptor | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg. Max. Temperature | 66.9 | 67.5 | 71 | 75.7 | 81 | 88.1 | 94.7 | 95.6 | 91.3 | 82.4 | 71.4 | 66.9 |
| Avg. Min. Temperature | 41.1 | 43 | 45.3 | 48.4 | 53.2 | 57.3 | 62.1 | 62.8 | 59.6 | 53.1 | 44.1 | 40.9 |
| Avg. Total Precipitation (in.) | 2.66 | 2.88 | 2.1 | 0.99 | 0.35 | 0.11 | 0.07 | 0.16 | 0.23 | 0.62 | 1.01 | 2.14 |

Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7306
Data from the Redlands, CA station (047306).

## Pollutants

Pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). A summary of federal and state ambient air quality standards is provided in the Regulatory Framework section.

*Criteria Pollutants*

The criteria pollutants consist of: ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and particulate matter. These pollutants can harm your health and the environment, and cause property damage. The Environmental Protection Agency (EPA) calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria for setting permissible levels. The following provides descriptions of each of the criteria pollutants.

*Nitrogen Dioxides*

Nitrogen Oxides (NOx) is the generic term for a group of highly reactive gases which contain nitrogen and oxygen. While most NOx are colorless and odorless, concentrations of nitrogen dioxide ($NO_2$) can often be seen as a reddish-brown layer over many urban areas. NOx form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NOx are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuel. NOx reacts with other pollutants to form, ground-level ozone, nitrate particles, acid aerosols, as well as $NO_2$, which cause respiratory problems. NOx and the pollutants formed from NOx can be transported over long distances, following the patterns of prevailing winds. Therefore, controlling NOx is often most effective if done from a regional perspective, rather than focusing on the nearest sources.

*Ozone*

Ozone ($O_3$) is not usually emitted directly into the air but at ground-level is created by a chemical reaction between NOx and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents as well as natural sources emit NOx and VOC that help form ozone. Ground-level ozone is the primary constituent of smog. Sunlight and hot weather cause ground-level ozone to form with the greatest concentrations usually occurring downwind from urban areas. Ozone is subsequently considered a regional pollutant. Ground-level ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Because NOx and VOC are ozone precursors, the health effects associated with ozone are also indirect health effects associated with significant levels of NOx and VOC emissions.

*Carbon Monoxide*

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. Woodstoves, gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are indoor sources of CO. The highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent. The air pollution becomes trapped near the ground beneath a layer of warm air. CO is described as having only a local influence because it dissipates quickly. Since CO concentrations are strongly associated with motor vehicle emissions, high CO concentrations generally occur in the immediate vicinity of roadways with high

traffic volumes and traffic congestion, active parking lots, and in automobile tunnels. Areas adjacent to heavily traveled and congested intersections are particularly susceptible to high CO concentrations.

CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. The health threat from lower levels of CO is most serious for those who suffer from heart disease such as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

*Sulfur Dioxide*

Sulfur Oxide (SOx) gases (including sulfur dioxide [SO2]) are formed when fuel containing sulfur, such as coal and oil is burned, and from the refining of gasoline. SOx dissolves easily in water vapor to form acid and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and the environment.

*Lead*

Lead (Pb) is a metal found naturally in the environment as well as manufactured products. The major sources of lead emissions have historically been motor vehicles and industrial sources. Due to the phase out of leaded gasoline, metal processing is now the primary source of lead emissions to the air. High levels of lead in the air are typically only found near lead smelters, waste incinerators, utilities, and lead-acid battery manufacturers. Exposure of fetuses, infants and children to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

*Particulate Matter*

Particulate matter (PM) is the term for a mixture of solid particles and liquid droplets found in the air. Particulate matter is made up of a number of components including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. Particles that are less than 10 micrometers in diameter (PM10) are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Particles that are less than 2.5 micrometers in diameter (PM2.5) have been designated as a subset of PM10 due to their increased negative health impacts and its ability to remain suspended in the air longer and travel further.

*Reactive Organic Gases (ROG)*

Although not a criteria pollutant, reactive organic gases (ROGs), or volatile organic compounds (VOCs), are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably. Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM10 and lower visibility.

## Other Pollutants of Concern

*Toxic Air Contaminants*

In addition to the above-listed criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. Sources of toxic air contaminants include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least forty different toxic air contaminants. The most important of these toxic air contaminants, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to toxic air contaminants can result from emissions from normal operations as well as from accidental releases. Health effects of toxic air contaminants include cancer, birth defects, neurological damage, and death.

Toxic air contaminants are less pervasive in the urban atmosphere than criteria air pollutants, however they are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of toxic air contaminants with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust.

According to the 2013 California Almanac of Emissions and Air Quality, the majority of the estimated health risk from toxic air contaminants can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM). Diesel particulate matter is a subset of PM2.5 because the size of diesel particles are typically 2.5 microns and smaller. The identification of diesel particulate matter as a toxic air contaminant in 1998 led the California Air Resources Board (CARB) to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles in September 2000. The plan's goals are a 75-percent reduction in diesel particulate matter by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot". Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of diesel particulate matter as a toxic air contaminant was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to diesel particulate matter is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources.

According to the SCAQMD's MATES-V study, the project area has an estimated multi-pathway cancer risk of 255 in a million and an inhalation pathway cancer risk of 241 in one million risk of cancer. In comparison the average multi-pathway cancer risk for the South Coast Air Basin portion of Riverside County is 332 in one million and the inhalation risk is 313 in a million risk of cancer.

*Asbestos*

Asbestos is listed as a TAC by the ARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in mineral formations and crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. The nearest likely locations of naturally occurring asbestos, as identified in the General Location Guide for Ultramafic Rocks in California prepared by the California Division of Mines and Geology, is located at Asbestos Mountain in the San Jacinto Mountains, approximately 32 miles southeast of the project site. Due to the distance to the nearest natural occurrences of asbestos, the project site is not likely to contain asbestos.

## REGULATORY SETTING

The proposed project is addressed through the efforts of various international, federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality are discussed below.

### Federal – United States Environmental Protection Agency

The United States Environmental Protection Agency (EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The National Ambient Air Quality Standards (NAAQS) pollutants were identified using medical evidence and are shown below in Table 2.

The EPA and the California Air Resource Board (CARB) designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the Federal annual PM2.5 standard is met if the three-year average of the annual average PM2.5 concentration is less than or equal to the standard. Attainment status is shown in Table 3.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The State Implementation Plan (SIP) must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the State Implementation Plan (SIP).

As indicated below in Table 3, the Basin has been designated by the EPA as a non-attainment area for ozone ($O_3$) and suspended particulates (PM2.5). Currently, the Basin is in attainment with the ambient air quality standards for carbon monoxide (CO), lead, sulfur dioxide ($SO_2$), suspended particulate matter (PM-10), and nitrogen dioxide ($NO_2$).

### State – California Air Resources Board

The California Air Resources Board (CARB), which is a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the State Implementation Plan (SIP). The California Ambient Air Quality Standards (CAAQS) for criteria pollutants are shown in Table 2. In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. Furthermore, the motor vehicle emission standards established by CARB include compliance with the Safer Affordable Fuel-Efficient Vehicles (SAFE) Rule, issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020). The SAFE Rule sets fuel economy and carbon dioxide standards that increase 1.5 percent in stringency each year from model years 2021 through 2026 and apply to both passenger cars and light trucks. CARB. It also sets fuel specifications to further reduce vehicular emissions. The SAFE Rule was repealed on December 21, 2021. NHTSA is in process of adopting more stringent corporate average fuel economy (CAFE) standards for model year 2024–2026 vehicles.

The South Coast Air Basin has been designated by the CARB as a nonattainment area for ozone, PM10 and PM2.5. Currently, the South Coast Air Basin is in attainment with the ambient air quality standards for CO, lead, SO2, NO2, and sulfates and is unclassified for visibility reducing particles and Hydrogen Sulfide.

On June 20, 2002, the CARB revised the PM10 annual average standard to 20 µg/m3 and established an annual average standard for PM2.5 of 12 µg/m3. These standards were approved by the Office of Administrative Law in June 2003 and are now effective. On September 27, 2007, CARB approved the South Coast Air Basin and the Coachella Valley 2007 Air Quality Management Plan for Attaining the Federal 8-hour Ozone and PM2.5 Standards. The plan projected attainment for the 8-hour Ozone standard by 2024 and the PM2.5 standard by 2015.

On December 12, 2008, the CARB adopted Resolution 08-43, which limits NOx, PM10 and PM2.5 emissions from on-road diesel truck fleets that operate in California. On October 12, 2009, Executive Order R-09-010 was adopted that codified Resolution 08-43 into Section 2025, Title 13 of the California Code of Regulations. This regulation requires that by the year 2023 all commercial diesel trucks that operate in California shall meet model year 2010 (Tier 4) or latter emission standards. In the interim period, this regulation provides annual interim targets for fleet owners to meet. This regulation also provides a few exemptions including a once-per-year 3-day pass for trucks registered outside of California.

The CARB is also responsible for regulations pertaining to toxic air contaminants. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into the South Coast Air Basin. The data is ranked by high, intermediate, and low categories, which are determined by: the potency, toxicity, quantity, volume, and proximity of the facility to nearby receptors.

*AB 617 Nonvehicular air pollution: criteria air pollutants and toxic air contaminants*

This bill requires the state board to develop a uniform statewide system of annual reporting of emissions of criteria air pollutants and toxic air contaminants for use by certain categories of stationary sources. The bill requires those stationary sources to report their annual emissions of criteria air pollutants and toxic air contaminants, as specified. This bill required the state board, by October 1, 2018, to prepare a monitoring plan regarding technologies for monitoring criteria air pollutants and toxic air contaminants and the need for and benefits of additional community air monitoring systems, as defined. The bill requires the state board to select, based on the monitoring plan, the highest priority locations in the state for the deployment of community air monitoring systems. The bill requires an air district containing a selected location, by July 1, 2019, to deploy a system in the selected location. The bill would authorize the air district to require a stationary source that emits air pollutants in, or that materially affect, the selected location to deploy a fence-line monitoring system, as defined, or other specified real-time, on-site monitoring. The bill authorizes the state board, by January 1, 2020, and annually thereafter, to select additional locations for the deployment of the systems. The bill would require air districts that have deployed a system to provide to the state board air quality data produced by the system. By increasing the duties of air districts, this bill would impose a state-mandated local program. The bill requires the state board to publish the data on its Internet Web site.

## Regional

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin. To that end, as a regional agency, the SCAQMD works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments and cooperates actively with all federal and state agencies.

South Coast Air Quality Management District

The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. The SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. It has responded to this requirement by preparing a sequence of AQMPs. On June 30, 2016, the SCAQMD released its Draft 2016 AQMP.

*Air Quality Management Plan*

The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air. The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NOx) emissions sufficiently to meet the upcoming ozone standard deadlines. On March 23, 2017, the CARB approved the 2016 AQMP. The primary goal of this Air Quality Management Plan is to meet clean air standards and protect public health, including ensuring benefits to environmental justice and disadvantaged communities. Now that the Plan has been approved by the CARB, it has been forwarded to the U.S. EPA for its review. The Plan was approved by the EPA on June 15, 2017.

In May 2022, the SCAQMD completed the 2022 Draft AQMP. The 2022 Draft AQMP is focused on attaining the 2015 8-hour ozone standard (70 ppb) for the South Coast Air Basin and Coachella Valley. The Draft 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emission technologies, when cost-effective and feasible, and low NOx technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other CAA measures to achieve the 2015 8-hour ozone standard. The 2022 AQMP was adopted December 2, 2022, by SCAQMD Governing Board. The 2022 AQMP was approved and adopted by CARB on January 26, 2023. The 2022 AQMP strategy includes the following:[2]

- Wide adoption of zero emissions technologies anywhere available.
- Low NOx technologies where zero emissions aren't feasible.
- Federal Action.
- Zero emissions technologies for residential and industrial sources such as water and space heaters in buildings and homes regionwide.
- Incentive funding in environmental justice areas.
- Prioritize benefits on the most disadvantaged communities.

*SCAQMD Rules and Regulations*

During construction and operation, the project must comply with applicable rules and regulations. The following are the rules the project may be required to comply with, either directly, or indirectly:

*SCAQMD Rule 402*

Prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to

[2] SCAQMD 2022 AQMP Infographic. http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2022-aqmp-infographic

the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

*SCAQMD Rule 403*

Governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the $PM_{10}$ component). Compliance with these rules would reduce impacts on nearby sensitive receptors. Rule 403 measures may include but are not limited to the following:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least three times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code section 23114.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
- Bumper strips or similar best management practices shall be provided where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replanting disturbed areas as soon as practical.
- During all construction activities, construction contractors shall sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

*SCAQMD Rule 445*

Prohibits permanently installed wood burning devices into any new development. A wood burning device means any fireplace, wood burning heater, or pellet-fueled wood heater, or any similarly enclosed, permanently installed, indoor or outdoor device burning any solid fuel for aesthetic or space-heating purposes, which has a heat input of less than one million British thermal units per hour.

*SCAQMD Rule 481*

Applies to all spray painting and spray coating operations and equipment. The rule states that a person shall not use or operate any spray painting or spray coating equipment unless one of the following conditions is met:

(1) The spray coating equipment is operated inside a control enclosure, which is approved by the Executive Officer. Any control enclosure for which an application for permit for new construction, alteration, or change of ownership or location is submitted after the date of adoption of this rule shall be exhausted only through filters at a design face velocity not less than 100 feet per minute nor greater than 300 feet

per minute, or through a water wash system designed to be equally effective for the purpose of air pollution control.
(2) Coatings are applied with high-volume low-pressure, electrostatic and/or airless spray equipment.
(3) An alternative method of coating application or control is used which has effectiveness equal to or greater than the equipment specified in the rule.

*SCAQMD Rule 1108*

Governs the sale, use, and manufacturing of asphalt and limits the volatile organic compound (VOC) content in asphalt used in the South Coast Air Basin. This rule would regulate the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the project must comply with SCAQMD Rule 1108.

*SCAQMD Rule 1113*

Governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of the project must comply with SCAQMD Rule 1113.

*SCAQMD Rule 1143*

Governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

*SCAQMD Rule 1186*

Limits the presence of fugitive dust on paved and unpaved roads and sets certification protocols and requirements for street sweepers that are under contract to provide sweeping services to any federal, state, county, agency or special district such as water, air, sanitation, transit, or school district.

*SCAQMD Rule 1303*

Governs the permitting of re-located or new major emission sources, requiring Best Available Control Measures and setting significance limits for $PM_{10}$ among other pollutants.

*SCAQMD Rule 1401*

New Source Review of Toxic Air Contaminants, specifies limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units, which emit toxic air contaminants.

*SCAQMD Rule 1403*

Asbestos Emissions from Demolition/Renovation Activities, specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM).

*SCAQMD Rule 2202*

On-Road Motor Vehicle Mitigation Options, is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act

requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. It applies to any employer who employs 250 or more employees on a full or part-time basis at a worksite for a consecutive six-month period calculated as a monthly average.

*SCAQMD Rule 2305*

The Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program aims to reduce nitrogen oxide and diesel emissions associated with warehouses, help meet federal standards and improve public health. The WAIRE Program is an indirect source rule that regulates warehouse facilities to reduce emissions from the goods movement industry. Owners and operators of warehouses that have 100,000 square feet or more of indoor floor space in a single building must comply with the WAIRE Program. WAIRE is a menu-based point system in which warehouse operators are required to earn a specific number of points every year. The yearly number of points required is based on the number of trucks trips made to and from the warehouse each year, with larger trucks such as tractors or tractor-trailers multiplied by 2.5. Warehouse operators may be exempt from parts of the rule if they operate less than 50,000 square feet of warehousing activities, if the number of points required is less than 10, or if the WAIRE menu action chosen under performs due to circumstances beyond the operator's control, such as a manufacturer defect. SCAQMD Rule 316 establishes fees to fund Rule 2305 compliance activities.

Air Quality Guidance Documents

*SCAQMD CEQA Handbook*

Although the SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate air quality issues associated with plans and new development projects throughout the South Coast Air Basin. Instead, this is controlled through local jurisdictions in accordance with the California Environmental Quality Act (CEQA). In order to assist local jurisdictions with air quality compliance issues the CEQA Air Quality Handbook (SCAQMD CEQA Handbook) prepared by the SCAQMD (1993) with the most current updates found at http://www.aqmd.gov/ceqa/hdbk.html, was developed in accordance with the projections and programs of the AQMP. The purpose of the SCAQMD CEQA Handbook is to assist Lead Agencies, as well as consultants, project proponents, and other interested parties in evaluating a proposed project's potential air quality impacts. Specifically, the SCAQMD CEQA Handbook explains the procedures that the SCAQMD recommends be followed for the environmental review process required by CEQA. The SCAQMD CEQA Handbook provides direction on how to evaluate potential air quality impacts, how to determine whether these impacts are significant, and how to mitigate these impacts. SCAQMD is in the process of developing an "Air Quality Analysis Guidance Handbook" to replace the CEQA Air Quality Handbook approved by the AQMD Governing Board in 1993. The 1993 CEQA Air Quality Handbook is still available but not online. In addition, there are sections of the 1993 Handbook that are obsolete. In order to assist the CEQA practitioner in conducting an air quality analysis while the new Handbook is being prepared, supplemental information regarding: significance thresholds and analysis, emissions factors, cumulative impacts emissions analysis, and other useful subjects, are available at the SCAQMD website[3]. The SCAQMD CEQA Handbook and supplemental information is used in this analysis.

*Southern California Association of Governments*

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the Federally designated MPO for the majority of the southern California region and is the largest MPO in the nation. With respect to air quality planning, SCAG has prepared the Regional Transportation Plan and Regional Transportation Improvement Plan (RTIP), which addresses regional development and growth forecasts. These plans form the basis for the land use and transportation components of the AQMP, which are utilized in the preparation of air quality forecasts and in the consistency

[3] http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

analysis included in the AQMP. The Regional Transportation Plan, Regional Transportation Improvement Plan, and AQMP are based on projections originating within the City and County General Plans.

On April 7, 2016, SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (2016 RTP/SCS or Plan). The Plan is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The Plan charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably. It outlines more than $556.5 billion in transportation system investments through 2040. The Plan was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. In June 2016, SCAG received its conformity determination from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 FTIP Consistency Amendment through Amendment 15-12 have been met.

On September 3, 2020, SCAG's Regional Council unanimously voted to approve and fully adopt Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy), and the addendum to the Connect SoCal Program Environmental Impact Report. Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. Connect SoCal outlines more than $638 billion in transportation system investments through 2045. It was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura.

**Local – City of Banning**

Local jurisdictions, such as the City of Banning, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City is also responsible for the implementation of transportation control measures as outlined in the 2022 AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

The City relies on the expertise of the SCAQMD and utilizes the SCAQMD CEQA Air Quality Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

The Environmental Resources Air Quality Element of the City of Banning General Plan summarize air quality issues in the Basin, air quality-related plans and programs administered by federal, state, and special purpose agencies, and establishes goals and policies to improve air quality.

Applicable goals and policies from the Environmental Resources Air Quality Element include:

**Goal** To preserve and enhance local and regional air quality for the protection of the health and welfare of the community.

*Policy 1* The City shall be proactive in regulating local pollutant emitters and shall cooperate with the Southern California Association of Governments and the South Coast Air Quality Management District to assure compliance with air quality standards.

*Policy 2* The City shall continue to coordinate and cooperate with local, regional and federal efforts to monitor, manage and reduce the levels of major pollutants affecting the City and region, with particular emphasis on PM10 and ozone emissions, as well as other emissions associated with diesel-fueled equipment and motor vehicles.

*Policy 3* City land use planning efforts shall assure that sensitive receptors are separated from polluting point sources.

*Policy 4* Development proposals brought before the City shall be reviewed for their potential to adversely impact local and regional air quality and shall be required to mitigate any significant impacts.

*Policy 5* The City shall promote the use of clean and/or renewable alternative energy sources for transportation, heating and cooling.

*Policy 6* The City shall support the development of facilities and projects that facilitate and enhance the use of alternative modes of transportation, including pedestrian-oriented retail and activity centers, dedicated bicycle paths and lanes, and community-wide multi-use trails.

**Table 2**
**State and Federal Criteria Pollutant Standards**

| Air Pollutant | Concentration / Averaging Time | | Most Relevant Effects |
|---|---|---|---|
| | California Standards | Federal Primary Standards | |
| Ozone ($O_3$) | 0.09 ppm/1-hour<br>0.07 ppm/8-hour | 0.070 ppm/8-hour | (a) Decline in pulmonary function and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage. |
| Carbon Monoxide (CO) | 20.0 ppm/1-hour<br>9.0 ppm/8-hour | 35.0 ppm/1-hour<br>9.0 ppm/8-hour | (a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses. |
| Nitrogen Dioxide ($NO_2$) | 0.18 ppm/1-hour<br>0.03 ppm/annual | 100 ppb/1-hour<br>0.053 ppm/annual | (a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration. |
| Sulfur Dioxide ($SO_2$) | 0.25 ppm/1-hour<br>0.04 ppm/24-hour | 75 ppb/1-hour<br>0.14 ppm/annual | (a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. |
| Suspended Particulate Matter ($PM_{10}$) | 50 µg/$m^3$/24-hour<br>20 µg/$m^3$/annual | 150 µg/$m^3$/24-hour | (a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; (c) Increased risk of premature death from heart or lung diseases in elderly. |
| Suspended Particulate Matter ($PM_{2.5}$) | 12 µg/$m^3$ / annual | 35 µg/$m^3$/24-hour<br>12 µg/$m^3$/annual | |
| Sulfates | 25 µg/$m^3$/24-hour | No Federal Standards | (a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c ) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) property damage. |
| Lead | 1.5 µg/$m^3$/30-day | 0.15 µg/$m^3$/3-month rolling | (a) Learning disabilities; (b) Impairment of blood formation and nerve conduction. |
| Visibility Reducing Particles | Extinction coefficient of 0.23 per kilometer-visibility of 10 miles or more due to particles when humidity is less than 70 percent. | No Federal Standards | Visibility impairment on days when relative humidity is less than 70 percent. |

Source: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

**Table 3**
**South Coast Air Basin Attainment Status**

| Pollutant | State Status | National Status |
|---|---|---|
| Ozone | Nonattainment | Nonattainment (Extreme) |
| Carbon monoxide | Attainment | Attainment (Maintenance) |
| Nitrogen dioxide | Attainment | Unclassifable/Attainment |
| Sulfur dioxide | Attainment | Unclassifiable/Attainment |
| PM10 | Nonattainment | Attainment (Maintenance) |
| PM2.5 | Nonattainment | Nonattainment (Serious) |

Source (Federal and State Status): California Air Resources Board (2022) https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations & SCAQMD 2022 Air Quality Management Plan (December 2022) http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/final-2022-aqmp.pdf?sfvrsn=16.

## MONITORED AIR QUALITY

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates of the existing emissions in the Basin provided in the Final 2022 Air Quality Management Plan prepared by SCAQMD (December 2022) indicate that collectively, mobile sources account for 46 percent of the VOC, 85 percent of the NOx emissions, 89 percent of the CO emissions and 29 percent of directly emitted PM2.5, with another 18 percent of PM2.5 from road dust.

The SCAQMD has divided the South Coast Air Basin into 38 air-monitoring areas with a designated ambient air monitoring station representative of each area. The project site is located in the Banning Airport Air Monitoring Area (Area 29). The nearest air monitoring station to the project site is the Banning Airport Monitoring Station (Banning Station). The Banning Station is located approximately 1.88 miles west of the project site at 200 S. Hathaway Street, Banning. However, it should be noted that due to the air monitoring station distance from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site. Table 4 presents the monitored pollutant levels from the Banning Station.

Table 4 summarizes 2020 through 2022 published monitoring data, which is the most recent 3-year period available. The data shows that during the past few years, the project area has exceeded the ozone standards.

### Ozone

During the 2020 to 2022 monitoring period, the State 1-hour concentration standard for ozone was exceeded between 29 and 41 days each year at the Banning Station. The State 8-hour ozone standard has been exceeded between 59 and 82 days each year over the past three years at the Banning Station. The Federal 8-hour ozone standard was exceeded between 56 and 80 days each year over the past three years at the Banning Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and $NO_2$, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

### Carbon Monoxide

CO is another important pollutant that is due mainly to motor vehicles. The Banning Station did not record an exceedance of the state or federal 8-hour CO standard for the last three years.

### Nitrogen Dioxide

The Banning Station did not record an exceedance of the State or Federal $NO_2$ standards for the last three years.

### Particulate Matter

The State 24-hour concentration standards for PM10 were exceeded for one day in 2020 over the last three years at the Banning Station. Over the past three years, the Banning Station did not record an exceedance of the Federal 24-hour standards for PM10.

There was insufficient data over the last three years for the Federal 24-hour standard for PM2.5 at the Banning Station.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

## Table 4
## Air Quality Monitoring Summary

| Pollutant (Standard)[1] | | Year | | |
|---|---|---|---|---|
| | | 2020 | 2021 | 2022 |
| Ozone: | Maximum 1-Hour Concentration (ppm) | 0.150 | 0.139 | 0.116 |
| | Days > CAAQS (0.09 ppm) | 29 | 41 | 30 |
| | Maximum 8-Hour Concentration (ppm) | 0.116 | 0.116 | 0.101 |
| | Days > NAAQS (0.070 ppm) | 68 | 80 | 56 |
| | Days > CAAQS (0.070 ppm) | 71 | 82 | 59 |
| Carbon Monoxide: | Maximum 8-Hour Concentration (ppm) | * | * | * |
| | Days > CAAQS (9 ppm) | 0 | 0 | 0 |
| | Days > NAAQS (9 ppm) | 0 | 0 | 0 |
| Nitrogen Dioxide: | Maximum 1-Hour Concentration (ppm) | 0.051 | 0.057 | 0.052 |
| | Days > CAAQS (0.18 ppm) | 0 | 0 | 0 |
| Inhalable Particulates (PM10): | Maximum 24-Hour Concentration (µg/m$^3$) | 69.3 | 48.6 | 52.4 |
| | Days > NAAQS (150 µg/m3) | 0 | 0 | 0 |
| | Days > CAAQS (50 µg/m3) | 1 | 0 | 0 |
| | Annual Average (µg/m3) | 21.2 | 21.2 | 22.5 |
| Ultra-Fine Particulates (PM2.5): | Maximum 24-Hour Concentration (µg/m3) | 46.7 | 40.9 | 37.9 |
| | Days > NAAQS (35 µg/m3) | * | * | * |
| | Annual Average (µg/m3) | 10.5 | 11.7 | 9.4 |

Notes:

Source: http://www.arb.ca.gov/adam/topfour/topfour1.php. Data from the Banning Airport Monitoring Station, unless otherwise noted.

(1) CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million

* Means there was insufficient data available to determine value.

## AIR QUALITY STANDARDS

### Significance Thresholds

*Appendix G of the State CEQA Guidelines*

Appendix G of the State CEQA Guidelines states that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make a significance determination. Pursuant to Appendix G, the project would result in a significant impact related to air quality if it would:

- Conflict with or obstruct the implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The CEQA Guidelines Section 15064.7 provides the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. The potential air quality impacts of the project are, therefore, evaluated according to thresholds developed by SCAQMD in their CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and subsequent guidance, which are listed below.[4] Therefore, the project would result in a potentially significant impact to air quality if it would:

AIR-1: Conflict with or obstruct the implementation of the applicable air quality plan;

AIR-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation as a result of:

- Criteria pollutant emissions during construction (direct and indirect) in excess of the SCAQMD's regional significance thresholds,
- Criteria pollutant emissions during operation (direct and indirect) in excess of the SCAQMD's regional significance thresholds.

AIR-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

AIR-4: Expose sensitive receptors to substantial pollutant concentrations that would:

- Exceed SCAQMD's localized significance thresholds,
- Cause or contribute to the formation of CO hotspots.

AIR-5: Create objectionable odors affecting a substantial number of people.

[4] While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, Project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from industrial land use projects such as the Project. As a result, lead emissions are not further evaluated herein.

The SCAQMD is in the process of developing an Air Quality Analysis Guidance Handbook to replace the CEQA Air Quality Handbook. In the interim, supplemental guidance has been adopted by the SCAQMD. The potential air quality impacts of the project are, therefore, evaluated according to numeric indicators developed by the SCAQMD in the CEQA Air Quality Handbook and supplemental guidance from the SCAQMD.[5]

**Regional Air Quality**

Many air quality impacts that derive from dispersed mobile sources, which are the dominate pollution generators in the basin, often occurs hours later and miles away after photochemical processes have converted primary exhaust pollutants into secondary contaminants such as ozone. The incremental regional air quality impact of an individual project is generally very small and difficult to measure. Therefore, the SCAQMD has developed significance thresholds based on the volume of pollution emitted rather than on actual ambient air quality because the direct air quality impact of a project is not quantifiable on a regional scale. The SCAQMD CEQA Handbook states that any project in the South Coast Air Basin with daily emissions that exceed any of the identified significance thresholds should be considered as having an individually and cumulatively significant air quality impact. For the purposes to this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table 5.

**Local Air Quality**

Project-related construction air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. In order to assess local air quality impacts the SCAQMD has developed Localized Significance Thresholds (LSTs) to assess the project-related air emissions in the project vicinity. The SCAQMD has also provided Final Localized Significance Threshold Methodology (LST Methodology), June 2003, which details the methodology to analyze local air emission impacts. The Localized Significance Threshold Methodology found that the primary emissions of concern are $NO_2$, CO, PM10, and PM2.5.

The significance thresholds for the local emissions of $NO_2$ and CO are determined by subtracting the highest background concentration from the last three years of these pollutants from Table 4 above, from the most restrictive ambient air quality standards for these pollutants that are outlined in the Localized Significance Thresholds. Table 5 shows the ambient air quality standards for $NO_2$, CO, and PM10 and PM2.5.

**Toxic Air Contaminants**

According to the SCAQMD CEQA Handbook, any project that has the potential to expose the public to toxic air contaminants in excess of the following thresholds would be considered to have a significant air quality impact:

- If the Maximum Incremental Cancer Risk is 10 in one million or greater; or
- Toxic air contaminants from the proposed project would result in a Hazard Index increase of 1 or greater.

In order to determine if the proposed project may have a significant impact related to hazardous air pollutants (HAP), the Health Risk Assessment Guidance for analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, (Diesel Analysis), prepared by SCAQMD, August 2003, recommends that if the proposed project is anticipated to create hazardous air pollutants through stationary sources or regular operations of diesel trucks on the project site, then the proximity of the nearest receptors to the

[5] While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, Project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from residential land use projects such as the Project. As a result, lead emissions are not further evaluated herein.

source of the hazardous air pollutants and the toxicity of the hazardous air pollutants should be analyzed through a comprehensive facility-wide health risk assessment (HRA).

The potential for health risks due to project-related diesel particulate matter (DPM) emissions is examined in Section 3 of this report.

**Odor Impacts**

The SCAQMD CEQA Handbook states that an odor impact would occur if the proposed project creates an odor nuisance pursuant to SCAQMD Rule 402, which states:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

If the proposed project results in a violation of Rule 402 with regards to odor impacts, then the proposed project would create a significant odor impact.

**Table 5**
**SCAQMD Air Quality Significance Thresholds**

| Mass Daily Thresholds[1] | | |
|---|---|---|
| Pollutant | Construction (lbs/day) | Operation (lbs/day) |
| NOx | 100 | 55 |
| VOC | 75 | 55 |
| PM10 | 150 | 150 |
| PM2.5 | 55 | 55 |
| SOx | 150 | 150 |
| CO | 550 | 550 |
| Lead | 3 | 3 |
| Toxic Air Contaminants (TACs), Odor and GHG Thresholds | | |
| TACs (including carginogens and non-carcinogens) | Maximum Incremental Cancer Risk ≥ 10 in 1 million<br>Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million)<br>Chronic & Acute Hazard Index > 1.0 (project increment) | |
| Odor | Project creates an odor nuisance pursuant to South Coast AQMD Rule 402 | |
| GHG | 10,000 MT/yr CO2e for industrial facilities | |
| Ambient Air Quality Standards for Criteria Pollutants[2] | | |
| NO2<br>1-hour average<br>annual arithmetic mean | South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:<br>0.18 ppm (state)<br>0.03 ppm (state) & 0.0534 ppm (federal) | |
| PM10<br>24-hour average<br>annual average | 10.4 µg/m^3 (construction)[3] & 2.5 ug/m^3 (operation)<br>1.0 ug/m^3 | |
| PM2.5<br>24-hour average | 10.4 µg/m^3 (construction)[3] & 2.5 µg/m^3 (operation) | |
| SO2<br>1-hour average<br>24-hour average | 0.25 ppm (state) & 0.075 ppm (federal – 99th percentile)<br>0.04 ppm (state) | |
| Sulfate<br>24-hour average | 25 µg/m^3 (state) | |
| CO<br>1-hour average<br>8-hour average | South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:<br>20 ppm (state) & 35 ppm (federal)<br>9 ppm (state/federal) | |
| Lead<br>30-day average<br>Rolling 3-month average | 1.5 µg/m^3 (state)<br>0.15 µg/m^3 (federal) | |

Notes:
Source: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook
(1) Source: South Coast AQMD CEQA Handbook (South Coast AQMD, 1993)
(2) Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated.
(3) Ambient air quality threshold based on South Coast AQMD Rule 403.

### SHORT-TERM CONSTRUCTION EMISSIONS

Construction activities associated with the proposed project would have the potential to generate air emissions, toxic air contaminant emissions, and odor impacts. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. The construction activities for the proposed project are anticipated to include: grading of approximately 14.27 net acres; construction of 49,000 square feet of industrial use (incudes 45,000 square feet of warehouse use, 3,000 square feet of office use, and two 500 square foot enclosed saw sheds) with a building footprint of 46,545 square feet (~1.07 acres), 2.13 acres of gravel areas, and 62,456 square feet of landscaping; paving of a parking lot with 34 automobile parking spaces with the total asphalt area covering approximately 9.63 acres; and application of architectural coatings. Grading of the proposed project site is anticipated to balance. See Appendix B for more details.

The proposed project is anticipated to start construction no sooner than early July 2024 with completion estimated by the end of June 2025. The project is anticipated to be operational in 2025.

## Methodology

The following provides a discussion of the methodology used to calculate regional construction air emissions and an analysis of the proposed project's short-term construction emissions for the criteria pollutants. The construction-related regional air quality impacts have been analyzed for both criteria pollutants and GHGs.

Emissions are estimated using the CalEEMod (Version 2022.1.1.20) software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California and is recommended by the SCAQMD.[6]

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The input values used in this analysis were adjusted to be project-specific for the construction schedule and the equipment used was based on CalEEMod defaults. The CalEEMod program uses the EMFAC2021 computer program to calculate the emission rates specific for the southwestern portion of Riverside County for construction-related employee vehicle trips and the OFFROAD2017 computer program to calculate emission rates for heavy truck operations. EMFAC2021 and OFFROAD2017 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Daily truck trips and CalEEMod default trip length data were used to assess roadway emissions from truck exhaust. The maximum daily emissions are estimated values for the worst-case day and do not represent the emissions that would occur for every day of project construction. The maximum daily emissions are compared to the SCAQMD daily regional numeric indicators. Detailed construction equipment lists, construction scheduling, and emission calculations are provided in Appendix B.

The project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site

[6] South Coast Air Quality Management District, California Emissions Estimator Model, http://www.aqmd.gov/caleemod/.

access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of the Project area (approximately 14.27 net acres) a Fugitive Dust Control Plan or Large Operation Notification would not be required.

SCAQMD's Rule 403 minimum requirements require that the application of the best available dust control measures is used for all grading operations and include the application of water or other soil stabilizers in sufficient quantity to prevent the generation of visible dust plumes. Compliance with Rule 403 would require the use of water trucks during all phases where earth moving operations would occur. Compliance with Rule 403 has been included in the CalEEMod modeling for the proposed project.

Per SCAQMD Rule 1113 as amended on June 3, 2011, the architectural coatings that would be applied after January 1, 2014 will be limited to an average of 50 grams per liter or less of VOCs for building coatings and 100 grams per liter or less of VOCs for traffic coatings.

The phases of the construction activities which have been analyzed below for each phase are: (1) grading, (2) building construction, (3) paving, and (4) application of architectural coatings. Details pertaining to the project's construction timing and the type of equipment modeled for each construction phase are available in the CalEEMod output in Appendix B.

**Construction-Related Regional Impacts**

The maximum summer or winter criteria pollutant emissions from the proposed project's construction-related criteria pollutant emissions are shown below in Table 6. Table 6 shows that none of the project's emissions will exceed regional thresholds. Therefore, a less than significant regional air quality impact would occur from construction of the proposed project.

**Construction-Related Local Impacts**

Construction-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The proposed project has been analyzed for the potential local air quality impacts created from: construction-related fugitive dust and diesel emissions; from toxic air contaminants; and from construction-related odor impacts.

*Local Air Quality Impacts from Construction*

The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (South Coast Air Quality Management District 2011b). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. In order to compare CalEEMod reported emissions against the localized significance threshold lookup tables, the CEQA document should contain the following parameters:

(1) The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.
(2) The maximum number of acres disturbed on the peak day.
(3) Any emission control devices added onto off-road equipment.
(4) Specific dust suppression techniques used on the day of construction activity with maximum emissions.

The CalEEMod output in Appendix B show the equipment used for this analysis.

As shown in Table 7, the maximum number of acres disturbed in a day would be 4 acres during grading. The local air quality emissions from construction were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in Localized Significance Threshold Methodology prepared by SCAQMD (revised July 2008). The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. The emission thresholds were calculated based on the Banning Airport source receptor area (SRA) 29 and a disturbance value of two acres per day, to be conservative. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds. The nearest sensitive receptors to the project site are the existing single-family residential land uses located approximately 75 feet (~23 meters) south of the project site; therefore, the SCAQMD Look-up Tables for 25 meters was used. Table 8 shows the on-site emissions from the CalEEMod model for the different construction phases and the LST emissions thresholds.

The data provided in Table 8 shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from construction of the proposed project.

**Construction-Related Health Impacts**

Regarding health effects related to criteria pollutant emissions, the applicable significance thresholds are established for regional compliance with the state and federal ambient air quality standards, which are intended to protect public health from both acute and long-term health impacts, depending on the potential effects of the pollutant. Because regional and local emissions of criteria pollutants during construction of the project would be below the applicable thresholds, it would not contribute to long-term health impacts related to nonattainment of the ambient air quality standards. Therefore, significant adverse acute health impacts as a result of project construction are not anticipated.

**Construction-Related Toxic Air Contaminant Impacts**

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. According to the Office of Environmental Health Hazard Assessment (OEHHA)[7] and the SCAQMD *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (August 2003),[8] health effects from TACs are described in terms of individual cancer risk based on a lifetime (i.e., 30-year) resident exposure duration. Given the temporary and short-term construction schedule (approximately 12 months), the project would not result in a long-term (i.e., lifetime or 30-year) exposure as a result of project construction. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds.

The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. The project would also comply with the requirements of SCAQMD Rule 1403 if asbestos is found during the renovation and construction activities. Therefore, impacts from TACs during construction would be less than significant.

[7] Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessment, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[8] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003,http://www.aqmd.gov/docs/default-source/ceqa/handbook/mobile-source-toxics-analysis.doc?sfvrsn=2.

**Construction-Related Odor Impacts**

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected to cease upon the drying or hardening of the odor producing materials. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors.

**Table 6**
**Construction-Related Regional Pollutant Emissions**

| Activity | Pollutant Emissions (pounds/day) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | NOx | CO | $SO_2$ | PM10 | PM2.5 |
| Maximum Daily Emissions[1,2] | 33.70 | 34.40 | 31.80 | 0.06 | 5.30 | 2.82 |
| SCAQMD Thresholds | 75 | 100 | 550 | 150 | 150 | 55 |
| Exceeds Thresholds? | No | No | No | No | No | No |

Notes:

Source: CalEEMod Version 2022.1.1.20.

(1) Includes on-site and off-site emissions. On-site grading PM-10 and PM-2.5 emissions show compliance with SCAQMD Rule 403 for fugitive dust.

(2) Construction, painting and paving phases may overlap.

**Table 7**
**Maximum Number of Acres Disturbed Per Day**

| Activity | Equipment | Number | Acres/8hr-day | Total Acres |
|---|---|---|---|---|
| Grading | Rubber Tired Dozers | 1 | 0.5 | 0.5 |
| | Scrapers | 2 | 1 | 2 |
| | Graders | 1 | 0.5 | 0.5 |
| | Crawler Tractors[1] | 2 | 0.5 | 1.0 |
| Total for phase | | - | - | 4.0 |

Notes:

Source: South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, 2011b.

(1) Tractor/loader/backhoe is a suitable surrogate for a crawler tractor per SCAQMD staff.

**Table 8**
**Local Construction Emissions at the Nearest Receptors**

| Activity | On-Site Pollutant Emissions (pounds/day) | | | |
|---|---|---|---|---|
| | NOx | CO | PM10 | PM2.5 |
| Grading | 34.30 | 30.20 | 5.04 | 2.75 |
| Building Construction | 14.40 | 17.50 | 0.64 | 0.59 |
| Paving | 7.45 | 9.98 | 0.35 | 0.32 |
| Architectural Coating | 0.88 | 1.14 | 0.03 | 0.03 |
| SCAQMD Thresholds[1] | 149 | 1,541 | 10 | 6 |
| Exceeds Threshold? | No | No | No | No |

Notes:
Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 2 acres, to be conservative, at a distance of 25 m in SRA 29 Banning Airport.

(1) The nearest sensitive receptors are the existing single-family residential land uses located approximately 75 feet (~23 meters) south of the project site; therefore, the 25 meter threshold was used.

Note: The project will disturb up to a maximum of 4 acres a day during grading (see Table 7).

## LONG-TERM OPERATIONAL EMISSIONS

The on-going operation of the proposed project would result in a long-term increase in air quality emissions. This increase would be due to emissions from the project-generated vehicle trips and through operational emissions from the on-going use of the proposed project. The following section provides an analysis of potential long-term air quality impacts due to: regional air quality and local air quality impacts with the on-going operations of the proposed project.

### Operations-Related Regional Air Quality Impacts

The potential operations-related air emissions have been analyzed below for the criteria pollutants and cumulative impacts.

*Operations-Related Criteria Pollutants Analysis*

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of the CalEEMod model. The operating emissions were based on the year 2025, which is the anticipated opening year for the proposed project. The operations daily emissions printouts from the CalEEMod model are provided in Appendix B. The CalEEMod analyzes operational emissions from area sources, energy usage, and mobile sources, which are discussed below.

*Mobile Sources*

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips (trip generation rate) from the Brown Strauss Banning Industrial Project Traffic Impact Analysis (TIA) prepared by Ganddini Group, Inc. (October 27, 2023) into the CalEEMod Model. The TIA found the proposed project would create approximately 191 vehicle trips per day (non-PCE) and 343 vehicle trips per day (PCE) with a trip generation rate of 8.3 trips per acre per day.[9] For use in the CalEEMod model, the trip generation rate was calculated at 3.9 trips per thousand square foot per day. The program then applies the emission factors for each trip which is provided by the EMFAC2021 model to determine the vehicular traffic pollutant emissions.

The TIA found that the project would create 99 automobile round trips, 19 2-axle truck round trips, 4 3-axle truck round trips, and 69 4+-axle truck round trips per day (non-PCE). The vehicle mix for the industrial use was changed in CalEEMod to match the TIA (see Table 9) and the percentages in CalEEMod were changed to 51.8% autos (H-W) and 48.2% trucks (W-O) to match the overall vehicle percentages given in the TIA. Due to the proposed project's location and proposed warehouse land use, the average customer based trip length was increased to 40 miles per SCAQMD recommendation, while all other trip lengths were based on the urban default values.

*Area Sources*

Per the CAPCOA Appendix A Calculation Details for CalEEMod, area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment. No changes were made to the default area source parameters.

[9] As stated in the TIA, the proposed relocation of existing operations from the 23.0-acre facility in Fontana to a smaller 14.92-acre facility in Banning could arguably be expected to generate fewer trips. However, in order to provide a conservative assessment, the TIA assumed that the proposed 14.92-acre facility will generate the same number of trips as the existing 23.0-acre facility in the City of Fontana.

*Offroad Sources*

Offroad sources include emissions from the use of eight diesel forklifts, 17 hours a day, 5 days a week within the yard and one electric crane 17 hours a day, 5 days a week within the warehouse.[10]

*Energy Usage*

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

*Project Impacts*

The maximum daily pollutant emissions created from the proposed project's long-term operations have been calculated and are shown below in Table 10. The results show that none of the SCAQMD regional thresholds would be exceeded. Therefore, a less than significant regional air quality impact would occur from operation of the proposed project.

**Operations-Related Local Air Quality Impacts**

Project-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The proposed project has been analyzed for the potential local CO emission impacts from the project-generated vehicular trips and from the potential local air quality impacts from on-site operations. The following analysis analyzes the vehicular CO emissions, local impacts from on-site operations per SCAQMD LST methodology, and odor impacts.

*Local CO Emission Impacts from Project-Generated Vehicular Trips*

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards which were presented above.

To determine if the proposed project could cause emission levels in excess of the CO standards discussed above, a sensitivity analysis is typically conducted to determine the potential for CO "hot spots" at a number of intersections in the general project vicinity. Because of reduced speeds and vehicle queuing, "hot spots" potentially can occur at high traffic volume intersections with a Level of Service E or worse.

The analysis prepared for CO attainment in the South Coast Air Basin by the SCAQMD can be used to assist in evaluating the potential for CO exceedances in the South Coast Air Basin. CO attainment was thoroughly analyzed as part of the SCAQMD's 2003 Air Quality Management Plan (2003 AQMP) and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan). As discussed in the 1992 CO Plan, peak carbon monoxide concentrations in the South Coast Air Basin are due to unusual meteorological and topographical conditions, and not due to the impact of particular intersections. Considering the region's unique meteorological conditions and the increasingly stringent CO emissions standards, CO modeling was performed as part of 1992 CO Plan and subsequent plan updates and air quality management plans. In the 1992 CO Plan, a CO hot spot analysis was conducted for four busy intersections in Los Angeles at the peak morning and afternoon time periods. The intersections evaluated included: South Long Beach Boulevard and Imperial

[10] On-site operations in the yard include the use of up to 6 diesel forklifts, which are to be in operation during all shift hours (two shifts, 5 AM to 1:30 PM and 3:00 PM to 11:30 PM) or a total of 17 hours a day. To be conservative, the modeling assumed up to 8 diesel forklifts at 17 hours a day. In addition, 1 electric crane is to operate within the warehouse during shift hours.

Highway (Lynwood); Wilshire Boulevard and Veteran Avenue (Westwood); Sunset Boulevard and Highland Avenue (Hollywood); and La Cienega Boulevard and Century Boulevard (Inglewood). These analyses did not predict a violation of CO standards. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority[11] evaluated the Level of Service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be Level of Service E during the morning peak hour and Level of Service F during the afternoon peak hour.

The TIA showed that the proposed project would generate a maximum of approximately 191 daily vehicle trips. The intersection with the highest traffic volume is located at 8th Street and Lincoln Street and has a Cumulative Conditions With Project (2025) AM peak hour volume of 240 vehicles. The 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan) showed that an intersection which has a daily traffic volume of approximately 100,000 vehicles per day would not violate the CO standard. Therefore, as the intersection volume falls far short of 100,000 vehicles per day, no CO "hot spot" modeling was performed, and no significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed project.

*Local Air Quality Impacts from On-Site Operations*

Project-related air emissions from on-site sources such as architectural coatings, landscaping equipment, on-site usage of natural gas appliances as well as the operation of vehicles on-site may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The nearest sensitive receptors that may be impacted by the proposed project are the existing single-family residential land uses located approximately 75 feet (~23 meters) south of the project site.

The local air quality emissions from on-site operations were analyzed according to the methodology described in Localized Significance Threshold Methodology, prepared by SCAQMD, revised July 2008. The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. Per SCAQMD staff, the 5-acre Look-up Table, which is the largest site available, can be used as a conservative screening analysis for on-site operational emissions to determine whether more-detailed dispersion modeling would be necessary. The proposed project was analyzed based on the Banning Airport source receptor area (SRA) 29 and as the site is 14.92 gross acres, used the screening thresholds for a five-acre project site.

Table 11 shows the on-site emissions from the CalEEMod model that includes natural gas usage, landscape maintenance equipment, and vehicles operating on-site and the calculated emissions thresholds. Per LST methodology, mobile emissions include only on-site sources which equate to approximately 10 percent of the project-related new mobile sources.[12] The data provided in Table 11 shows that the on-going operations of the proposed project would not exceed SCAQMD local operational thresholds of significance discussed above. Therefore, the on-going operations of the proposed project would create a less than significant operations-related impact to local air quality due to on-site emissions and no mitigation would be required.

**Operations-Related Human Impacts**

Regarding health effects related to criteria pollutant emissions, the applicable significance thresholds are established for regional compliance with the state and federal ambient air quality standards, which are intended to protect public health from both acute and long-term health impacts, depending on the potential

[11] Metropolitan Transportation Authority, *2004 Congestion Management Plan for Los Angeles County*, Adopted July 22, 2004.

[12] The project site is approximately 0.25 miles in length at its longest point; therefore the on-site mobile source emissions represent approximately 1/24th of the shortest CalEEMod default distance of 6.1 miles. Therefore, to be conservative, 1/10th the distance (dividing the mobile source emissions by 10) was used to represent the portion of the overall mobile source emissions that would occur on-site.

effects of the pollutant. Because regional and local emissions of criteria pollutants during operation of the project would be below the applicable thresholds, it would not contribute to long-term health impacts related to nonattainment of the ambient air quality standards. Therefore, significant adverse acute health impacts as a result of project operation are not anticipated.

**Operations-Related Odor Impacts**

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from the intermittent diesel delivery truck emissions and trash storage areas. Due to the distance of the nearest receptors from the project site and through compliance with SCAQMD's Rule 402 no significant impact related to odors would occur during the on-going operations of the proposed project.

## Table 9
## CalEEMod Revised Vehicle Mix Parameters

| CalEEMod Vehicle Type | Vehicle Mix from Traffic Analysis | CalEEMod Default Mix[1] | | CalEEMod Revised Mix[2] | |
|---|---|---|---|---|---|
| | | Ratio | Number of Vehicles | Ratio | Number of Vehicles |
| Light Auto | Automobile | 0.496 | 95 | 0.280 | 53 |
| Light Truck < 3750 lbs | Automobile | 0.039 | 7 | 0.022 | 4 |
| Light Truck 3751-5750 lbs | Automobile | 0.201 | 38 | 0.113 | 22 |
| Med Truck 5751-8500 lbs | Automobile | 0.160 | 31 | 0.090 | 17 |
| Lite-Heavy Truck 8501-10,000 lbs | 2-Axle Truck | 0.032 | 6 | 0.078 | 15 |
| Lite-Heavy Truck 10,001-14,000 lbs | 2-Axle Truck | 0.009 | 2 | 0.022 | 4 |
| Med-Heavy Truck 14,001-33,000 lbs | 3-Axle Truck | 0.014 | 3 | 0.021 | 4 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 4+-Axle Truck | 0.016 | 3 | 0.361 | 69 |
| Other Bus | -- | 0.001 | 0 | 0.000 | 0 |
| Urban Bus | -- | 0.000 | 0 | 0.000 | 0 |
| Motorcycle | Automobile | 0.023 | 4 | 0.013 | 3 |
| School Bus | -- | 0.001 | 0 | 0.000 | 0 |
| Motor Home | -- | 0.006 | 1 | 0.000 | 0 |
| **Total** | | **1.0** | **191** | **1.0** | **191** |

Notes:

(1) Source: CalEEMod Version 2022.1.1.20 default values for Opening year of 2025.

(2) Revised per the vehicle mix provided in the Brown Strauss Industrial Project Traffic Impact Analysis (Ganddini Group, Inc., October 27, 2023) of 51.8% Autos, 10% 2-Axle Trucks, 2.1% 3-Axle Trucks and 36.1% 4+ Axle Trucks.

## Table 10
## Regional Operational Pollutant Emissions

| Activity | Pollutant Emissions (pounds/day) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
| Maximum Daily Emissions | 3.75 | 23.90 | 34.00 | 0.14 | 6.16 | 2.18 |
| SCAQMD Thresholds | 55 | 55 | 550 | 150 | 150 | 55 |
| Exceeds Threshold? | No | No | No | No | No | No |

Notes:

Source: CalEEMod Version 2022.1.1.20; the higher of either summer or winter emissions.

## Table 11
## Local Operational Emissions at the Nearest Receptors

| | On-Site Pollutant Emissions (pounds/day)[1] | | | |
|---|---|---|---|---|
| On-Site Emission Source | NOx | CO | PM10 | PM2.5 |
| Area Sources[2] | 0.02 | 2.13 | 0.01 | 0.01 |
| Energy Usage[3] | 0.25 | 0.21 | 0.02 | 0.02 |
| Vehicle Emissions[4] | 1.11 | 1.39 | 0.55 | 0.16 |
| Off-Road[5] | 12.50 | 17.70 | 0.66 | 0.61 |
| Total Emissions | 13.88 | 21.43 | 1.23 | 0.79 |
| SCAQMD Thresholds[6] | 236 | 2,817 | 6 | 2 |
| Exceeds Threshold? | No | No | No | No |

Notes:

(1) Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 5 acres, to be conservative, in SRA 29.

(2) Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.

(3) Energy usage consists of emissions from on-site natural gas usage.

(4) On-site vehicular emissions based on 1/10 of the gross vehicular emissions and road dust.

(5) On-site operations in the yard include the use of up to 6 diesel forklifts, which are to be in operation during all shift hours (two shifts, 5 AM to 1:30 PM and 3:00 PM to 11:30 PM) or a total of 17 hours a day. To be conservative, the modeling assumed up to 8 diesel forklifts at 17 hours a day. In addition, 1 electric crane is to operate within the warehouse during shift hours.

(6) The nearest sensitive receptors are the existing single-family residential land uses located approximately 75 feet (~23 meters) south of the project site; therefore, the 25 meter threshold was used.

## CUMULATIVE AIR QUALITY IMPACTS

There are a number of cumulative projects in the project area that have not yet been built or are currently under construction. Since the timing or sequencing of the cumulative projects is unknown, any quantitative analysis to ascertain daily construction emissions that assumes multiple, concurrent construction projects would be speculative. Further, cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered would cover an even larger area. The SCAQMD recommends using two different methodologies: (1) that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality;[13] and (2) that a project's consistency with the current AQMP be used to determine its potential cumulative impacts.

### Project Specific Impacts

The project area is out of attainment for ozone, PM10, and PM2.5. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the South Coast Air Basin. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic volumes from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. This applies to TACs as well, as the SCAQMD does not have any cumulative TAC thresholds; therefore, projects that do not exceed the SCAQMD TAC threshold criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant.

Project operations would generate emissions of NOx, ROG, CO, PM10, and PM2.5, which, would not exceed the SCAQMD regional or local thresholds and would not be expected to result in ground level concentrations that exceed the NAAQS or CAAQS. The project will not be a source of significant TACs and will not cause significant cancer or non-cancer-related health risks. Since the project would not introduce any substantial stationary sources of emissions, CO is the benchmark pollutant for assessing local area air quality impacts from post-construction motor vehicle operations. As indicated earlier, no violations of the state and federal CO standards are projected to occur for the project, based on the magnitude of traffic the project is anticipated to create.

Therefore, operation of the project would not result in a cumulatively considerable net increase for non-attainment of criteria pollutants or ozone precursors, or TACs. As a result, the project would result in a less than significant cumulative impact for operational emissions.

### Air Quality Compliance

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the SCAQMD Air Quality Management Plan (AQMP). Therefore, this section discusses any potential inconsistencies of the proposed project with the AQMP.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the proposed project would interfere with the region's ability to

[13] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution White Paper, 1993, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

comply with Federal and State air quality standards. If the decision-makers determine that the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP". Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
(2) Whether the project will exceed the assumptions in the AQMP in 2022 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

*Criteria 1 – Increase in the Frequency or Severity of Violations*

Based on the air quality modeling analysis contained in this Air Analysis, short-term construction impacts will not result in significant impacts based on the SCAQMD regional and local thresholds of significance. This Air Analysis also found that, long-term operations impacts will not result in significant impacts based on the SCAQMD local and regional thresholds of significance.

Therefore, the proposed project is not projected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

*Criteria 2 – Exceed Assumptions in the AQMP?*

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The 2020-2045 Regional Transportation/Sustainable Communities Strategy prepared by SCAG (2020) includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this project, the City of Banning Land Use Plan defines the assumptions that are represented in the AQMP.

The project site has an existing designation of General Commercial (GC) and Industrial (I) in the City's General Plan. The proposed project includes a General Plan Amendment and Zone Change from General Commercial (GC) and Industrial (I) to Industrial (I). As the proposed project is that of a steel manufacturing and distribution use, it is not currently consistent with the existing land use and zoning designations. However, once the Policy Plan Amendment and Zone Change are approved, the project would be consistent with the general plan and zoning designations. Although the project and Policy Plan Amendment and Zone Change may initially result in an inconsistency with the AQMP on paper, the inconsistency would not necessarily constitute a conflict with the AQMP. Because the parcels in question would be changed from commercial and industrial to just industrial, the project would not be expected to result in population growth beyond that assumed in the AQMP assumptions. The SCAQMD acknowledges that strict consistency with all aspects of the AQMP is not required in order to make a finding of no conflict. Rather, a project is considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The project would implement contemporary energy-efficient technologies and regulatory/operational programs required per Title 24, CALGreen and City standards. Generally, compliance with SCAQMD emissions reductions and control

requirements also act to reduce project air pollutant emissions. In combination, project emissions-reducing design features and regulatory/operational programs are consistent with and support overarching AQMP air pollution reduction strategies. Project support of these strategies promotes timely attainment of AQMP air quality standards and would bring the project into conformance with the AQMP. Therefore, the proposed project is not anticipated to exceed the AQMP assumptions for the project site and is found to be consistent with the AQMP for the second criterion.

Based on the above, the proposed project will not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact will occur.

# 3. DIESEL EMISSIONS HEALTH RISK ASSESSMENT

The on-going operation of the proposed project would generate toxic air contaminant (TAC) emissions from diesel truck and rail emissions created by the on-going operations of the proposed project. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 30-year lifetime will contract cancer, based on the use of revised Office of Environmental Health Hazard Assessment (OEHHA) risk-assessment methodology[14]. The 2015 OEHHA guidance states that "Districts are to determine which facilities will prepare an HRA based on a prioritization process outlined in the law. The process by which Districts identify priority facilities for risk assessment involves consideration of potency, toxicity, quantity of emissions, and proximity to sensitive receptors such as hospitals, daycare centers, schools, work-sites, and residences". The Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis prepared by SCAQMD (August 2003) defers to CARB (State) guidance for "technical guidance for diesel toxic impact analyses for various source categories".

The California Air Pollution Control Officers Association (CAPCOA) has developed TAC health risk assessment guidelines to provide consistent, statewide procedures for preparing the health risk assessments required under the Air Toxics "Hot Spots" Act. The title of these guidelines is CAPCOA Air Toxics "Hot Spots" Program Revised 1992 Risk Assessment Guidelines. The District recommends that lead agencies conduct TAC risk assessments in accordance with the CAPCOA Risk Assessment Guidelines, as supplemented by the District's supplemental guidelines. According to SCAQMD and CAPCOA guidelines, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 30-year lifetime will contract cancer, based on the use of standard risk-assessment methodology.

The nearest sensitive receptors to the project site are the existing single-family residential land uses located approximately 75 feet (~23 meters) south of the project site. However, it should be noted that these existing residential uses are non-conforming land uses. The area is designated as Business Park on the City of Banning General Plan and Zoning Map.

The most recent Health Risk Assessment for Proposed Land Use Projects prepared by CAPCOA (July 2009) recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). In addition, new sensitive land uses should also be avoided within 1,000 feet of a major service and maintenance rail yard. A summary of the basis for the distance recommendations can be found in the CARB Handbook *Air Quality and Land Use Handbook: A Community Health Perspective*.

Per the Transportation Study Screening Assessment, the proposed project is anticipated to have up to approximately 92 truck trips per day (non-PCE). Therefore, as it is not anticipated to accommodate more than 100 trucks per day, a quantitative health risk assessment for the proposed on-site warehouse uses is not warranted or required. In addition, the number of rail cars anticipated by the proposed project was found to be negligible and was not included in the TIA. Per the project applicant, the proposed rail spur at the project site is anticipated to have up to three rail cars a week. At three rail cars a week, daily emissions from rail-related emissions would be from a maximum of one rail trip per day and would therefore be negligible. As shown in the operational LST analysis, the PM emissions from the on-site off-road equipment (diesel forklifts) does not exceed any operational LST thresholds, and would add a negligible TAC risk to the closest receptors.

[14] In February 2015, the Office of Environmental Health Hazard Assessment updated their "Air Toxics Hot Spots Program, Risk Assessments Guidelines, Guidance Manual for Preparation of Health Risk Assessments; however, the updated OEHHA guidance states in the page footers "do not cite or quote". SCAQMD staff have incorporated the updates into their methodology for SCAQMD's Rules 1401, 1401.1, 1402, and 212, and have updated their HRA Guidance for permitting; however, they are still in the process of updating the guidance for CEQA analyses (via working group sessions).

Therefore, a quantitative health risk assessment for the proposed on-site rail, truck and forklift activity is not warranted or required as PM exhaust emissions and cancer risk would not exceed SCAQMD MICR threshold of 10 in a million at the closest receptor locations.

Significant TAC impacts from the project-related operational DPM sources are not anticipated and no significant long-term operations-related TAC impacts from the proposed project to nearby sensitive receptors would occur.

# 4. GLOBAL CLIMATE CHANGE ANALYSIS

## EXISTING GREENHOUSE GAS ENVIRONMENT

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide ($CO_2$), methane ($CH_4$), ozone, water vapor, nitrous oxide ($N_2O$), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of $CO_2$ and nitrous oxide (NOx) are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of $CO_2$, where $CO_2$ is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. The following provides a description of each of the greenhouse gases and their global warming potential.

### Water Vapor

Water vapor is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to "hold" more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop". The extent to which this positive feedback loop will continue is unknown as there is also dynamics that put the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

### Carbon Dioxide ($CO_2$)

The natural production and absorption of $CO_2$ is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s. Each of these activities has increased in scale and distribution. $CO_2$ was the first GHG demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC Fifth Assessment Report, 2014) Emissions of $CO_2$ from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010. Globally, economic and population growth continued to be the most important drivers of increases in $CO_2$ emissions from fossil fuel combustion. The contribution of population growth between 2000 and 2010 remained roughly identical to the previous three decades, while the contribution of economic growth has risen sharply.

**Methane ($CH_4$)**

$CH_4$ is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of $CO_2$. Its lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as $CO_2$, $N_2O$, and Chlorofluorocarbons (CFCs). $CH_4$ has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.

**Nitrous Oxide ($N_2O$)**

Concentrations of $N_2O$ also began to rise at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). $N_2O$ is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is also commonly used as an aerosol spray propellant, (i.e., in whipped cream bottles, in potato chip bags to keep chips fresh, and in rocket engines and in race cars).

**Chlorofluorocarbons (CFC)**

CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane ($C_2H_6$) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and in 1989 the European Community agreed to ban CFCs by 2000 and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

**Hydrofluorocarbons (HFC)**

HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 ($CHF_3$), HFC-134a ($CF_3CH_2F$), and HFC-152a ($CH_3CHF_2$). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade for applications such as automobile air conditioners and refrigerants.

**Perfluorocarbons (PFC)**

PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane ($CF_4$) and hexafluoroethane ($C_2F_6$). Concentrations of $CF_4$ in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

**Sulfur Hexafluoride ($SF_6$)**

$SF_6$ is an inorganic, odorless, colorless, nontoxic, nonflammable gas. $SF_6$ has the highest global warming potential of any gas evaluated; 23,900 times that of $CO_2$. Concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

**Aerosols**

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning due to the incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

**Global Warming Potential**

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide ($CO_2$). The larger the GWP, the more that a given gas warms the Earth compared to $CO_2$ over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases. A summary of the atmospheric lifetime and the global warming potential of selected gases are summarized in Table 12. As shown in Table 12, the global warming potential of GHGs ranges from 1 to 22,800.

## Table 12
## Global Warming Potentials and Atmospheric Lifetimes

| Gas | Atmospheric Lifetime | Global Warming Potential[1] (100 Year Horizon) |
|---|---|---|
| Carbon Dioxide ($CO_2$) | –[2] | 1 |
| Methane ($CH_4$) | 12 | 28-36 |
| Nitrous Oxide (NO) | 114 | 298 |
| Hydrofluorocarbons (HFCs) | 1-270 | 12-14,800 |
| Perfluorocarbons (PFCs) | 2,600-50,000 | 7,390-12,200 |
| Nitrogen trifluoride ($NF_3$) | 740 | 17,200 |
| Sulfur Hexafluoride ($SF_6$) | 3,200 | 22,800 |

Notes:

Source: http://www3.epa.gov/climatechange/ghgemissions/gases.html

(1) Compared to the same quantity of $CO_2$ emissions.

(2) Carbon dioxide's lifetime is poorly defined because the gas is not destroyed over time, but instead moves among different parts of the ocean–atmosphere–land system. Some of the excess carbon dioxide will be absorbed quickly (for example, by the ocean surface), but some will remain in the atmosphere for thousands of years, due in part to the very slow process by which carbon is transferred to ocean sediments.

## GREENHOUSE GAS STANDARDS AND REGULATION

### International

*Montreal Protocol*

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global climate change and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling GHG emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs.

Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere—CFCs, halons, carbon tetrachloride, and methyl chloroform—were to be phased out, with the first three by the year 2000 and methyl chloroform by 2005.

*The Paris Agreement*

The Paris Agreement became effective on November 4, 2016. Thirty days after this date at least 55 Parties to the United Nations Framework Convention on Climate Change (Convention), accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions, had deposited their instruments of ratification, acceptance, approval or accession with the Depositary.

The Paris Agreement built upon the Convention and – for the first time – attempted to bring all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework.

### Federal

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the EPA have authority to regulate greenhouse gases, but the EPA's reasons for not regulating this area did not fit the statutory requirements. As

such, the U.S. Supreme Court ruled that the EPA should be required to regulate $CO_2$ and other greenhouse gases as pollutants under the federal Clean Air Act (CAA).

In response to the FY2008 Consolidations Appropriations Act (H.R. 2764; Public Law 110-161), EPA proposed a rule on March 10, 2009 that requires mandatory reporting of GHG emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of GHG Rule was signed and published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. This rule requires suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to EPA.

On December 7, 2009, the EPA Administrator signed two distinct findings under section 202(a) of the Clean Air Act. One is an endangerment finding that finds concentrations of the six GHGs in the atmosphere threaten the public health and welfare of current and future generations. The other is a cause or contribute finding, that finds emissions from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare. These actions will not themselves impose any requirements on industry or other entities. However, it is a prerequisite to finalizing the EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by the EPA and Department of Transportation on September 15, 2009.

*Clean Air Act*

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), the U.S. Supreme Court held in April of 2007 that the USEPA has statutory authority under Section 202 of the federal Clean Air Act (CAA) to regulate GHGs. The court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA. The USEPA adopted a Final Endangerment Finding for the six defined GHGs ($CO_2$, $CH_4$, $N_2O$, HFCs, PFCs, and $SF_6$) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the CAA consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

*Energy Independence Security Act*

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.[15]

*Executive Order 13432*

In response to the Massachusetts v. Environmental Protection Agency ruling, the President signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. Light-Duty Vehicle Greenhouse Gas and Corporate Average Fuel Economy Standards.

On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards (CAFE)[16] and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.[17] In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025.

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. This Rule also excludes CO2- equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[18]

On May 12, 2021, the National Highway Traffic Safety Administration (NHTSA) published a notice of proposed rulemaking in the Federal Register, proposing to repeal "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program," published Sept. 27, 2019 (SAFE I Rule), in which NHTSA codified regulatory text and made additional pronouncements regarding the preemption of state and local laws related to fuel economy standards. Specifically, this document proposes to fully repeal the regulatory text and appendices promulgated in the SAFE I Rule. In addition, this document proposes to repeal and withdraw the interpretative statements made by the Agency in the SAFE I Rule preamble, including those

[15] A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

[16] The Corporate Average Fuel Economy standards are regulations in the United States, first enacted by Congress in 1975, to improve the average fuel economy of cars and light trucks. The U.S Department of Transportation has delegated the National Highway Traffic Safety Administration as the regulatory agency for the Corporate Average Fuel Economy standards.

[17] United States Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, August 2012, https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF.

[18] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

regarding the preemption of particular state Greenhouse Gas (GHG) Emissions standards or Zero Emissions Vehicle (ZEV) mandates. As such, this document proposes to establish a clean slate with respect to NHTSA's regulations and interpretations concerning preemption under the Energy Policy and Conservation Act (EPCA).[19]

## State of California

*California Air Resources Board*

CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards [CAAQS]), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In 2004, the California Air Resources Board (CARB) adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure generally does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation, adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. While these regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

The State currently has no regulations that establish ambient air quality standards for GHGs. However, the State has passed laws directing CARB to develop actions to reduce GHG emissions, which are listed below.

*Assembly Bill 1493*

California Assembly Bill 1493 enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for $CO_2$ and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009. After adopting these initial greenhouse gas standards for passenger vehicles, CARB adopted continuing standards for future model years.

[19] https://www.federalregister.gov/documents/2021/05/12/2021-08758/corporate-average-fuel-economy-cafe-preemption

*Executive Order S-3-05*

The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

*Assembly Bill 32 (California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006)*

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO2, CH4, N2O, HFCs, PFCs, and SF6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

*Senate Bill 32 and Assembly Bill 197*

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

*Climate Change Scoping Plan (2008)*

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (Health and Safety Code section 38561 (h)). CARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap. The initial Scoping Plan was approved in 2008 and contains a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was originally set at 427 $MMTCO_2e$ using the GWP values from the IPCC SAR. CARB also projected the state's 2020 GHG emissions under no-action-taken (NAT) conditions – that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 $MMTCO_2e$ (using GWP values from the IPCC SAR). Therefore, under the original projections, the state must reduce its 2020 NAT emissions by 28.4 percent in order to meet the 1990 target of 427 $MMTCO_2e$.

*First Update to the Climate Change Scoping Plan (2014)*

The First Update to the Scoping Plan was approved by CARB in May 2014 and builds upon the initial Scoping Plan with new strategies and recommendations. In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined that the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431 $MMTCO_2e$. CARB also updated the State's 2020 NAT emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate using the GWP values from the IPCC AR4 is 509.4 $MMTCO_2e$.

*2017 Climate Change Scoping Plan*

In response to the 2030 GHG reduction target, CARB adopted the 2017 Climate Change Scoping Plan at a public meeting held in December 2017. The 2017 Scoping Plan outlines the strategies the State will implement to achieve the 2030 GHG reduction target of 40 percent below 1990 levels. The 2017 Scoping Plan also addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The 2017 Scoping Plan considered the Scoping Plan Scenario and four alternatives for achieving the required GHG reductions but ultimately selected the Scoping Plan Scenario.

CARB states that the Scoping Plan Scenario "is the best choice to achieve the State's climate and clean air goals."[20] Under the Scoping Plan Scenario, the majority of the reductions would result from the continuation of the Cap-and-Trade regulation. Additional reductions are achieved from electricity sector standards (i.e., utility providers to supply at least 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. The alternatives were designed to consider various combinations of these programs, as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030. Implementing this Scoping Plan will ensure that California's climate actions continue to promote innovation, drive the generation of new jobs, and achieve continued reductions of smog and air toxics. The ambitious approach draws on a decade of successful programs that address the major sources of climate-changing gases in every sector of the economy:

- More Clean Cars and Trucks: The plan sets out far-reaching programs to incentivize the sale of millions of zero-emission vehicles, drive the deployment of zero-emission trucks, and shift to a cleaner system of handling freight statewide.
- Increased Renewable Energy: California's electric utilities are ahead of schedule meeting the requirement that 33 percent of electricity come from renewable sources by 2020. The Scoping Plan guides utilities to 50 percent renewables, as required under SB 350.
- Slashing Super-Pollutants: The plan calls for a significant cut in super-pollutants such as methane and HFC refrigerants, which are responsible for as much as 40 percent of global warming.
- Cleaner Industry and Electricity: California's renewed cap-and-trade program extends the declining cap on emissions from utilities and industries and the carbon allowance auctions. The auctions will continue to fund investments in clean energy and efficiency, particularly in disadvantaged communities.
- Cleaner Fuels: The Low Carbon Fuel Standard will drive further development of cleaner, renewable transportation fuels to replace fossil fuels.
- Smart Community Planning: Local communities will continue developing plans which will further link transportation and housing policies to create sustainable communities.
- Improved Agriculture and Forests: The Scoping Plan also outlines innovative programs to account for and reduce emissions from agriculture, as well as forests and other natural lands.

[20] California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

The 2017 Scoping Plan also evaluates reductions of smog-causing pollutants through California's climate programs.

*2022 Climate Change Scoping Plan*

CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality on November 16, 2022. The 2022 Scoping Plan lays out the sector-by-sector roadmap for California, the world's fifth largest economy, to achieve carbon neutrality by 2045 or earlier, outlining a technologically feasible, cost-effective, and equity-focused path to achieve the state's climate target. The Plan addresses recent legislation and direction from Governor Newsom and extends and expands upon earlier plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. The plan also takes the unprecedented step of adding carbon neutrality as a science-based guide and touchstone for California's climate work. Specifically, this plan:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as driving principles throughout the document.
- Incorporates the contribution of natural and working lands (NWL) to the state's GHG emissions, as well as their role in achieving carbon neutrality.
- Relies on the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits of taking action.
- Identifies key implementation actions to ensure success.

*SB 32, Pavley. California Global Warming Solutions Act of 2006*

(1) The California Global Warming Solutions Act of 2006 designates the State Air Resources Board as the state agency charged with monitoring and regulating sources of emissions of greenhouse gases. The state board is required to approve a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective greenhouse gas emissions reductions. This bill would require the state board to ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.
(2) This bill would become operative only if AB 197 of the 2015–16 Regular Session is enacted and becomes effective on or before January 1, 2017. AB 197 requires that the California Air Resources Board, which directs implementation of emission-reduction programs, should target direct reductions at both stationary and mobile sources. AB 197 of the 2015-2016 Regular Session was approved on September 8, 2016.

*Executive Order S-1-07*

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs the CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009, CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG

emissions by about 16 MMT per year by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

*Senate Bill 97*

Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to the CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009, the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided, and no specific mitigation measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.

- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation".
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

*Senate Bill 100*

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

*Senate Bill 375*

Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). The CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. The CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by the CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

*Senate Bill X7-7*

Senate Bill X7-7 (SB X7-7), enacted on November 9, 2009, mandates water conservation targets and efficiency improvements for urban and agricultural water suppliers. SB X7-7 requires the Department of Water Resources (DWR) to develop a task force and technical panel to develop alternative best management practices for the water sector. In addition, SB X7-7 required the DWR to develop criteria for baseline uses for residential, commercial, and industrial uses for both indoor and landscaped area uses. The DWR was also required to develop targets and regulations that achieve a statewide 20 percent reduction in water usage.

*Assembly Bill 939 and Senate Bill 1374*

Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1,

2004, suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

*California Code of Regulations (CCR) Title 24, Part 6*

CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. 2013 Standards were approved and have been effective since July 1, 2014. 2016 Standards were adopted January 1, 2017. 2019 standards were published July 1, 2019 and became effective January 1, 2020. All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

Per Section 100 Scope, the 2019 Title 24, Part 6 Building Code now requires healthcare facilities, such as assisted living facilities, hospitals, and nursing homes, to meet documentation requirements of Title 24, Part 1 Chapter 7 – Safety Standards for Health Facilities. A healthcare facility is defined as any building or portion thereof licensed pursuant to California Health and Safety Code Division 2, Chapter 1, Section 1204 or Chapter 2, Section 1250.

Section 120.1 Ventilation and Indoor Air Quality included both additions and revisions in the 2019 Code. This section now requires nonresidential and hotel/motel buildings to have air filtration systems that use forced air ducts to supply air to occupiable spaces to have air filters. Further, the air filter efficiency must be either MERV 13 or use a particle size efficiency rating specific in the Energy Code AND be equipped with air filters with a minimum 2-inch depth or minimum 1-inch depth if sized according to the equation 120.1-A. If natural ventilation is to be used the space must also use mechanical unless ventilation openings are either permanently open or controlled to stay open during occupied times. The 2019 version of the Code also completely revised the minimum ventilation requirements including DVC airflow rates within Section 120.1 Table 120.1–A. Table 120.1-A now includes air classification and recirculation limitations, these are based on either the number of occupants or the CFM/$ft^2$ (cubic feet per minute per square foot), whichever is greater.

Section 120.1 Ventilation and Indoor Air Quality also included additions for high-rise residential buildings. Requirements include that mechanical systems must provide air filters that and that air filters must be MERV 13 or use a particle size efficiency rating specified in the Energy Code. Window operation is no longer a method allowed to meet ventilation requirements, continuous operation of central forced air system handlers used in central fan integrated ventilation system is not a permissible method of providing the dwelling unit ventilation airflow, and central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow to each dwelling unit. In addition, requirements for kitchen range hoods were also provided in the updated Section 120.1.

Per Section 120.1(a) healthcare facilities must be ventilated in accordance with Chapter 4 of the California Mechanical Code and are NOT required to meet the ventilations requirements of Title 24, Part 6.

Section 140.4 Space Conditioning Systems included both additions and revisions within the 2019 Code. The changes provided new requirements for cooling tower efficiency, new chilled water-cooling system requirements, as well as new formulas for calculating allowed fan power. Section 140.4(n) also provide a new exception for mechanical system shut-offs for high-rise multifamily dwelling units, while Section 140.4(o) added new requirements for conditioned supply air being delivered to space with mechanical exhaust.

Section 120.6 Covered Processes added information in regards to adiabatic chiller requirements that included that all condenser fans for air-cooled converseness, evaporative-cooled condensers, adiabatic condensers, gas coolers, air or water fluid coolers or cooling towers must be continuously variable speed, with the speed of all fans serving a common condenser high side controlled in unison .Further, the mid-condensing setpoint must be 70 degrees Fahrenheit for all of the above mentioned systems.

New regulations were also adopted under Section 130.1 Indoor Lighting Controls. These included new exceptions being added for restrooms, the exception for classrooms being removed, as well as exceptions in regard to sunlight provided through skylights and overhangs.

Section 130.2 Outdoor Lighting Controls and Equipment added automatic scheduling controls which included that outdoor lighting power must be reduced by 50 to 90 percent, turn the lighting off during unoccupied times and have at least two scheduling options for each luminaire independent from each other and with a 2-hour override function. Furthermore, motion sensing controls must have the ability to reduce power within 15 minutes of area being vacant and be able to come back on again when occupied. An exception allows for lighting subject to a health or life safety statute, ordinance, or regulation may have a minimum time-out period longer than 15 minutes or a minimum dimming level above 50% when necessary to comply with the applicable law.

The 2022 Building Energy Efficiency Standards became effective on January 1, 2023. [21] The core focus of the building standards has been efficiency, but the 2019 Energy Code ventured into onsite generation by requiring solar PV on new homes, providing significant GHG savings. The 2022 update builds off this progress with expanded solar standards and the move to onsite energy storage that will help Californians save on utility bills while bolstering the grid. The 2022 Energy Code update focuses on four key areas in new construction of homes and businesses:

- Encouraging electric heat pump technology and use, which consumes less energy and produces fewer emissions than traditional HVACs and water heaters.
- Establishing electric-ready requirements when natural gas is installed, which positions owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The 2022 Energy Code affects homes by establishing energy budgets based on efficient heat pumps for space or water heating to encourage builders to install heat pumps over gas-fueled HVAC units; requiring homes to be electric-ready, with dedicated 240-volt outlets and space (with plumbing for water heaters) so electric appliances can eventually replace installed gas appliances; increasing minimum kitchen ventilation requirements so that fans over cooktops have higher airflow or capture efficiency to better exhaust pollution from gas cooking and improve indoor air quality; and allowing exceptions to existing solar PV standards when roof area is not available (such as for smaller homes). In addition, the effect on businesses includes establishing combined solar PV and battery standards for select businesses with systems being sized to maximize onsite use of solar energy and avoid electricity demand during times when the grid must use gas-powered plants;

21 California Energy Commission (CEC). 2022. Building Energy Efficiency Standards. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency.

establishing new efficiency standards for commercial greenhouses (primarily cannabis growing); and improving efficiency standards for building envelope, various internal systems, and grid integration equipment, such as demand-responsive controls to buoy grid stability.[22,23]

*California Code of Regulations (CCR) Title 24, Part 11 (California Green Building Standards)*

On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011.

2016 CALGreen Code: The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions. During the 2016-2017 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle.

HCD also increased the required construction waste reduction from 50 percent to 65 percent of the total building site waste. This increase aids in meeting CalRecycle's statewide solid waste recycling goal of 75 percent for 2020 as stated in Chapter 476, Statutes of 2011 (AB 341). HCD adopted new regulations requiring recycling areas for multifamily projects of five or more dwelling units. This regulation requires developers to provide readily accessible areas adequate in size to accommodate containers for depositing, storage and collection of non-hazardous materials (including organic waste) for recycling. This requirement assists businesses that were required as of April 1, 2016, to meet the requirements of Chapter 727, Statutes of 2014 (AB 1826).

HCD adopted new regulations to require information on photovoltaic systems and electric vehicle chargers to be included in operation and maintenance manuals. Currently, CALGreen section 4.410.1 Item 2(a) requires operation and maintenance instructions for equipment and appliances. Photovoltaic systems and electric vehicle chargers are systems that play an important role in many households in California, and their importance is increasing every day. HCD incorporated these two terms in the existing language in order to provide clarity to code users as to additional systems requiring operation and maintenance instructions.

HCD updated the reference to Clean Air Standards of the United States Environmental Protection Agency applicable to woodstoves and pellet stoves. HCD also adopted a new requirement for woodstoves and pellet stoves to have a permanent label indicating they are certified to meet the emission limits. This requirement provides clarity to the code user and is consistent with the United States Environmental Protection Agency's New Source Performance Standards. HCD updated the list of standards which can be used for verification of compliance for exterior grade composite wood products. This list now includes four standards from the Canadian Standards Association (CSA): CSA O121, CSA O151, CSA O153 and CSA O325. HCD updated heating and air-conditioning system design references to the ANSI/ACCA 2 Manual J, ANSI/ACCA 1 Manual D, and ANSI/ACCA 3 Manual S to the most recent versions approved by ANSI. HCD adopted a new elective measure for hot water recirculation systems for water conservation. The United States Department of Energy estimates that 3,600 to 12,000 gallons of water per year can be saved by the typical household (with four points of hot water use) if a hot water recirculation system is installed.

2019 CALGreen Code: During the 2019-2020 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle. The 2019 version of the California Green Building Standards became effective January 1, 2020.

HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or

[22] https://www.lightnowblog.com/2021/08/california-energy-commission-adopts-2022-building-energy-efficiency-standards/

[23] State of California Energy Commission. 2022 Building Energy Efficiency Standards Summary. https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf

more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the postconstruction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of postconstruction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

HCD updated section 5.303.3.3 in regard to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regard to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13. MERV 13 filters are to be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

*Executive Order B-30-15*

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

The 2022 California Green Building Standards Code became effective on January 1, 2023.[24]

HCD amended Section 5.106.5.3 in regard to increasing the EV capable space percentages and adding a new requirement for installed Level 2 DCFC chargers.

[24] California Building Standards Commission (CBSC). 2022. California Green Building Standards. Website: https://codes.iccsafe.org/content/CAGBC2022P1.

HCD under Section 5.106.5.4 added new regulation for electric vehicle charging readiness requirements for new construction of warehouse, grocery stores, and retail stores with planned off-street loading spaces. [25]

*Executive Order B-29-15*

Executive Order B-29-15, mandates a statewide 25 percent reduction in potable water usage. EO B-29-15 signed into law on April 1, 2015.

*Executive Order B-37-16*

Executive Order B-37-16, continuing the State's adopted water reductions, was signed into law on May 9, 2016. The water reductions build off the mandatory 25 percent reduction called for in EO B-29-15.

*Executive Order N-79-20*

Executive Order N-79-20 was signed into law on September 23, 2020 and mandates 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the state be zero-emission vehicles by 2045 for all operations where feasible and by 2035 for drayage trucks; and to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

*SBX1 2*

Signed into law in April 2011, SBX1 2, requires one-third of the State's electricity to come from renewable sources. The legislation increases California's current 20 percent renewables portfolio standard target in 2010 to a 33 percent renewables portfolio standard by December 31, 2020.

*Senate Bill 350*

Signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

*Energy Sector and CEQA Guidelines Appendix F*

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically (typically every three years) to allow for the consideration and inclusion of new energy efficiency technologies and methods. The 2016 update to the Energy Efficiency Standards for Residential and Nonresidential Buildings focuses on several key areas to improve the energy efficiency of renovations and addition to existing buildings as well as newly constructed buildings and renovations and additions to existing buildings. The major efficiency improvements to the residential Standards involve improvements for attics, walls, water heating, and lighting, whereas the major efficiency improvements to the nonresidential Standards include alignment with the

[25] https://www.dgs.ca.gov/BSC/Resources/2022-Title-24-California-Code-Changes

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2013 national standards. Furthermore, the 2016 update required that enforcement agencies determine compliance with CCR, Title 24, Part 6 before issuing building permits for any construction.[26]

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[27] As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2022 to include new mandatory measures for residential and nonresidential uses; the new measures take effect on January 1, 2023.

**Regional – South Coast Air Quality Management District**

The project is within the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

*SCAQMD Regulation XXVII, Climate Change*

SCAQMD Regulation XXVII currently includes three rules:

- The purpose of Rule 2700 is to define terms and post global warming potentials.
- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a Greenhouse Gas Reduction Program for greenhouse gas emission reductions in the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

A variety of agencies have developed greenhouse gas emission thresholds and/or have made recommendations for how to identify a threshold. However, the thresholds for projects in the jurisdiction of the SCAQMD remain in flux. The California Air Pollution Control Officers Association explored a variety of threshold approaches but did not recommend one approach (2008). The ARB recommended approaches for setting interim significance thresholds (California Air Resources Board 2008b), in which a draft industrial project threshold suggests that non-transportation related emissions under 7,000 $MTCO_2e$ per year would be less than significant; however, the ARB has not approved those thresholds and has not published anything since then. The SCAQMD is in the process of developing thresholds, as discussed below.

*SCAQMD Threshold Development*

On December 5, 2008, the SCAQMD Governing Board adopted an interim greenhouse gas significance threshold for stationary sources, rules, and plans where the SCAQMD is lead agency (SCAQMD permit

[26] California Energy Commission, 2016 Building Energy Efficiency Standards, June 2015, http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf

[27] California Building Standards Commission, 2010 California Green Building Standards Code, (2010).

threshold). The SCAQMD permit threshold consists of five tiers. However, the SCAQMD is not the lead agency for this project. Therefore, the five permit threshold tiers do not apply to the proposed project.

The SCAQMD is in the process of preparing recommended significance thresholds for greenhouse gases for local lead agency consideration ("SCAQMD draft local agency threshold"); however, the SCAQMD Board has not approved the thresholds as of the date of the Notice of Preparation. The current draft thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:
  - All land use types: 3,000 $MTCO_2e$ per year
  - Based on land use type: residential: 3,500 $MTCO_2e$ per year; commercial: 1,400 $MTCO_2e$ per year; or mixed use: 3,000 $MTCO_2e$ per year.
  - Based on land type: Industrial (where SCAQMD is the lead agency), 10,000 $MTCO_2e$ per year.
- Tier 4 has the following options:
  - Option 1: Reduce emissions from business as usual (BAU) by a certain percentage; this percentage is currently undefined.
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures.
  - Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$/SP/year for projects and 6.6 $MTCO_2e$/SP/year for plans;
  - Option 3, 2035 target: 3.0 MTCO2e/SP/year for projects and 4.1 $MTCO_2e$/SP/year for plans.
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's draft threshold uses the Executive Order S-3-05 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap carbon dioxide concentrations at 450 ppm, thus stabilizing global climate. Specifically, the Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to a CEQA analysis, including a negative declaration, a mitigated negative declaration, or an environmental impact report, which includes analyzing feasible alternatives and imposing feasible mitigation measures. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that staff estimates that these GHG emissions would account for slightly less than one percent of future 2050 statewide GHG emissions target (85 $MMTCO_2eq$/year). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to BACT for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility.

*SCAQMD Working Group*

Since neither the CARB nor the OPR has developed GHG emissions threshold, the SCAQMD formed a Working Group to develop significance thresholds related to GHG emissions. At the September 28, 2010 Working Group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that provides a quantitative annual threshold of 10,000 $MTCO_2e$ for industrial uses.

In order to assist local agencies with direction on GHG emissions, the SCAQMD organized a working group and adopted Rules 2700, 2701, 2702, and 3002 which are described below.

*SCAQMD Rules 2700 and 2701*

The SCAQMD adopted Rules 2700 and 2701 on December 5, 2008, which establishes the administrative structure for a voluntary program designed to quantify GHG emission reductions. Rule 2700 establishes definitions for the various terms used in Regulation XXVII – Global Climate Change. Rule 2701 provides specific protocols for private parties to follow to generate certified GHG emission reductions for projects within the district. Approved protocols include forest projects, urban tree planting, and manure management. The SCAQMD is currently developing additional protocols for other reduction measures. For a GHG emission reduction project to qualify, it must be verified and certified by the SCAQMD Executive Officer, who has 60 days to approve or deny the Plan to reduce GHG emissions. Upon approval of the Plan, the Executive Officer issues required to issue a certified receipt of the GHG emission reductions within 90 days.

*SCAQMD Rule 2702*

The SCAQMD adopted Rule 2702 on February 6, 2009, which establishes a voluntary air quality investment program from which SCAQMD can collect funds from parties that desire certified GHG emission reductions, pool those funds, and use them to purchase or fund GHG emission reduction projects within two years, unless extended by the Governing Board. Priority will be given to projects that result in co-benefit emission reductions of GHG emissions and criteria or toxic air pollutants within environmental justice areas. Further, this voluntary program may compete with the cap-and-trade program identified for implementation in CARB's Scoping Plan, or a federal cap and trade program.

*SCAQMD Rule 3002*

The SCAQMD amended Rule 3002 on November 5, 2010 to include facilities that emit greater than 100,000 tons per year of $CO_2e$ are required to apply for a Title V permit by July 1, 2011. A Title V permit is for facilities that are considered major sources of emissions.

## SIGNIFICANCE THRESHOLDS

### Appendix G of State CEQA Guidelines

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;

- The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions[28].

**Thresholds of Significance for this Project**

To determine whether the project's GHG emissions are significant, this analysis conservatively uses the SCAQMD draft screening threshold of 3,000 $MTCO_2e$ per year for all land uses.

## METHODOLOGY

The proposed project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste, water, and construction equipment. The following provides the methodology used to calculate the project-related GHG emissions and the project impacts.

CalEEMod Version 2022.1.1.20 was used to calculate the GHG emissions from the proposed project. The CalEEMod output for year 2025 is available in Appendix B. Each source of GHG emissions is described in greater detail below.

*Area Sources*

Area sources include emissions from consumer products, landscape equipment and architectural coatings. No changes were made to the default area source emissions.

*Energy Usage*

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

*Mobile Sources*

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips from the TIA into the CalEEMod Model. The program then applies the emission factors for each trip which is provided by the EMFAC2021 model to determine the vehicular traffic pollutant emissions. See Section 2 for details.

*Waste*

Waste includes the GHG emissions generated from the processing of waste from the proposed project as well as the GHG emissions from the waste once it is interred into a landfill. No changes were made to the default waste parameters.

*Water*

Water includes the water used for the interior of the building as well as for landscaping and is based on the GHG emissions associated with the energy used to transport and filter the water. No changes were made to the default water usage parameters.

[28] The Governor's Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

*Offroad Sources*

Offroad sources include emissions from the use of eight diesel forklifts, 17 hours a day, 5 days a week within the yard and one electric crane 17 hours a day, 5 days a week within the warehouse.[29]

*Construction*

The construction-related GHG emissions were also included in the analysis and were based on a 30-year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The construction-related GHG emissions were calculated by CalEEMod and in the manner detailed above in Section 2.

## PROJECT GREENHOUSE GAS EMISSIONS

The GHG emissions have been calculated based on the parameters described above. A summary of the results is shown below in Table 13 and the CalEEMod Model run for the proposed project is provided in Appendix B. Table 13 shows that the total for the proposed project's emissions (without credit for any reductions from sustainable design and/or regulatory requirements) would be 2,638.63 $MTCO_2e$ per year. According to the thresholds of significance established above, a cumulative global climate change impact would occur if the GHG emissions created from the on-going operations of the proposed project would exceed the SCAQMD draft screening threshold of 3,000 $MTCO_2e$ per year for all land uses. Therefore, operation of the proposed project would not create a significant cumulative impact to global climate change. No mitigation is required.

[29] On-site operations in the yard include the use of up to 6 diesel forklifts, which are to be in operation during all shift hours (two shifts, 5 AM to 1:30 PM and 3:00 PM to 11:30 PM) or a total of 17 hours a day. To be conservative, the modeling assumed up to 8 diesel forklifts at 17 hours a day. In addition, 1 electric crane is to operate within the warehouse during shift hours.

**Table 13**
**Project-Related Greenhouse Gas Emissions**

| Category | Greenhouse Gas Emissions (Metric Tons/Year) | | | | | |
|---|---|---|---|---|---|---|
| | Bio-CO2 | NonBio-$CO_2$ | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2e$ |
| Maximum Annual Operations | 7.70 | 2,521.00 | 2,529.00 | 0.85 | 0.26 | 2,630.00 |
| Construction[1] | 0.00 | 8.57 | 8.57 | 0.00 | 0.00 | 8.63 |
| Total Emissions | 7.70 | 2,529.57 | 2,537.57 | 0.85 | 0.26 | 2,638.63 |
| SCAQMD Screening Threshold for All Land Uses | | | | | | 3,000 |
| Exceeds Threshold? | | | | | | No |

Notes:
Source: CalEEMod Version 2022.1.1.20 for Opening Year 2025.
(1) Construction GHG emissions CO2e based on a 30 year amortization rate.

### Consistency With Applicable Greenhouse Gas Reduction Plans and Policies

The proposed project would have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The City of Banning does not currently have a Climate Action Plan; therefore, the project has been compared to the goals of the CARB Scoping Plan.

Emission reductions in California alone would not be able to stabilize the concentration of greenhouse gases in the earth's atmosphere. However, California's actions set an example and drive progress towards a reduction in greenhouse gases elsewhere. If other states and countries were to follow California's emission reduction targets, this could avoid medium or higher ranges of global temperature increases. Thus, severe consequences of climate change could also be avoided.

The CARB Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State's strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan "proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health" (California Air Resources Board 2008). The measures in the Scoping Plan have been in place since 2012.

In May 2014, the CARB released its *First Update to the Climate Change Scoping Plan* (CARB 2014). This *Update* identifies the next steps for California's leadership on climate change. While California continues on its path to meet the near-term 2020 greenhouse gas limit, it must also set a clear path toward long-term, deep GHG emission reductions. This report highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050.

In November 2017, the CARB released the 2017 Scoping Plan. This Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State's climate goals, and includes a description of a suite of specific actions to meet the State's 2030 GHG limit. In addition, Chapter 4 provides a broader description of the many actions and proposals being explored across the sectors, including the natural resources sector, to achieve the State's mid and long-term climate goals.

Guided by legislative direction, the actions identified in the 2017 Scoping Plan reduce overall GHG emissions in California and deliver policy signals that will continue to drive investment and certainty in a low carbon economy. The 2017 Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets for SB 32 in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and Trade Program, which constrains and reduces emissions at covered sources.

Independent studies confirm CARB's determination that the state's existing and proposed regulatory framework will put the state on a pathway to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050 if additional appropriate reduction measures are

adopted.[30] Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies would allow the state to meet the 2050 target.

In November of 2022, the CARB released the 2022 Scoping Plan. The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

As the latest, 2022 Scoping Plan builds upon previous versions, project consistency with applicable strategies of the 2008, 2017, and 2022 Plan are assessed in Table 14. As shown in Table 14, the project is consistent with the applicable strategies within the Scoping Plan.

[30] Energy and Environmental Economics (E3). "Summary of the California State Agencies' PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios" (April 2015); Greenblatt, Jeffrey, Energy Policy, "Modeling California Impacts on Greenhouse Gas Emissions" (Vol. 78, pp. 158–172). The California Air Resources Board, California Energy Commission, California Public Utilities Commission, and the California Independent System Operator engaged E3 to evaluate the feasibility and cost of a range of potential 2030 targets along the way to the state's goal of reducing GHG emissions to 80 percent below 1990 levels by 2050. With input from the agencies, E3 developed scenarios that explore the potential pace at which emission reductions can be achieved, as well as the mix of technologies and practices deployed. E3 conducted the analysis using its California PATHWAYS model. Enhanced specifically for this study, the model encompasses the entire California economy with detailed representations of the buildings, industry, transportation and electricity sectors. https://www.ethree.com/wp-content/uploads/2017/02/E3_Project_Overview_20150406.pdf

**Table 14 (1 of 2)**
**Project Consistency with CARB Scoping Plan Policies and Meaures**

| 2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions | Project Compliance with Measure |
|---|---|
| California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California. | No Conflict. The project will be compliant with the current Title 24 standards. |
| Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. | No Conflict. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. In addition, the 2022 edition of the Code took effect January 1, 2023. The project will be subject to these mandatory standards. |
| High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases. | No Conflict. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures will comply with the strategy. |
| Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste. | No Conflict. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341. |
| Water – Continue efficiency programs and use cleaner energy sources to move and treat water. | No Conflict. The project will comply with all applicable City ordinances and CAL Green requirements. |

| 2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions | Project Compliance with Recommended Action |
|---|---|
| Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |

**Table 14 (2 of 2)**
**Project Consistency with CARB Scoping Plan Policies and Meaures**

| | |
|---|---|
| Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030. | No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy. |
| Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030. | No Conflict. The project will be compliant with the current Title 24 standards. |
| By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383. | No Conflict. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341. |

| 2022 Scoping Plan Priority Key Actions and Recommendations | Project Compliance with Recommended Actions |
|---|---|
| 100 percent of light-duty vehicle sales are ZEVs by 2035. | Not Applicable. This action is in regard to vehcile sales, with an aim to have 100 percent of light-duty vehicle sales be ZEVs by 2035. The proposed project is a steel manufacturing and distribution use and would not interfere with such policymaking. |
| VMT per capita reduced 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045. | No Conflict. The Project would not result in an unmitigated impact to VMT. The Project is a steel manufacturing and distribution use located in close proximity to existing roadways and residential and commercial uses. Therefore, the Project would be anticipated to contribute to a reduction in VMT per capita. |
| All electric appliances in new construction beginning 2026 (residential) and 2029 (commercial). | No Conflict. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. In addition, the 2022 edition of the Code took effect January 1, 2023. The project will be subject to these mandatory standards. |
| For existing residential buildings, 80 percent of appliance sales are electric by 2030 and 100 percent of appliance sales are electric by 2035 (appliances replaced at end of life).<br>For existing commercial buildings, 80 percent of appliance sales are electric by 2030 and 100 percent of appliance sales are electric by 2045 (appliances replaced at end of life) | Not Applicable. This action is in regard to appliance sales and the proposed project is a hotel use with rooftop restaurant and would not interfere with such policymaking. Furthermore, although this action is not necessarily applicable on a project-specific basis, the proposed project is subject to the California Green Building Standards Code (proposed Part 11, Title 24) which was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. In addition, the 2022 edition of the Code took effect January 1, 2023. The project will be subject to these mandatory standards. |

Notes:

(1) Source: CARB Scoping Plan (2008, 2017, and 2022)

### CUMULATIVE GREENHOUSE GAS IMPACTS

Although the project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. Therefore, in the case of global climate change, the proximity of the project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective."[31] The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

The state has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. Consistent with CEQA Guidelines Section 15064h(3),[32] the City, as lead agency, has determined that the project's contribution to cumulative GHG emissions and global climate change would be less than significant if the project is consistent with the applicable regulatory plans and policies to reduce GHG emissions.

As discussed in the Consistency With Applicable Greenhouse Gas Reduction Plans and Policies section above, the project is consistent with the goals and objectives of the CARB Scoping Plan.

Thus, given the project's consistency with the CARB Scoping Plan and SCAQMD's draft screening threshold of 3,000 $MTCO_2e$ per year threshold for all land uses, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Given this consistency, it is concluded that the project's incremental contribution to greenhouse gas emissions and their effects on climate change would not be cumulatively considerable.

[31] Source: California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, (2008).

[32] The State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction program renders a cumulative impact insignificant. Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."

# 5. ENERGY ANALYSIS

## EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the project area and region.

### Overview

California's estimated annual energy use as of 2022 included:

- Approximately 287,220 gigawatt hours of electricity;[33]
- Approximately 2,056,267 million cubic feet of natural gas per year;[34] and
- Approximately 23.2 billion gallons of transportation fuel (for the year 2015).[35]

As of 2021, the year of most recent data currently available by the United States Energy Information Administration (EIA), energy use in California by demand sector was:

- Approximately 41.2 percent transportation;
- Approximately 23.6 percent industrial;
- Approximately 18.2 percent residential; and
- Approximately 17.1 percent commercial.[36]

California's electricity in-state generation system generates approximately 194,127 gigawatt-hours each year. In 2021, California produced approximately 70 percent of the electricity it uses; the rest was imported from the Pacific Northwest (approximately 12 percent) and the U.S. Southwest (approximately 18 percent). Natural gas is the main source for electricity generation at approximately 50.2 percent of the total in-state electric generation system power as shown in Table 15.

A summary of and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the seventh-largest producer of crude oil among the 50 states in 2022, and, as of January 2022, it ranked third in oil refining capacity.
- California is the largest consumer of jet fuel and second-largest consumer of motor gasoline among the 50 states.
- In 2020, California was the second-largest total energy consumer among the states, but its per capita energy consumption was less than in all but three other states.
- In 2022, renewable resources, including hydroelectric power and small-scale, customer-sited solar power, accounted for 49 percent of California's in-state electricity generation. Natural gas fueled another 42 percent. Nuclear power supplied almost all the rest.

[33] California Energy Commission. Energy Almanac. Total Electric Generation. [Online] 2022. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation.

[34] Natural Gas Consumption by End Use. U.S. Energy Information Administration. [Online] 2022. https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.

[35] California Energy Commission. Revised Transportation Energy Demand Forecast 2018-2030. [Online] 2021. https://www.energy.ca.gov/data-reports/planning-and-forecasting

[36] U.S. Energy Information Administration. California Energy Consumption by End-Use Sector, 2021. California State Profile Overview.[Online] 2023 https://www.eia.gov/state/?sid=CA#tabs-2

- In 2022, California was the fourth-largest electricity producer in the nation, but the state was also the nation's third-largest consumer of electricity, and additional needed electricity supplies came from out-of-state generators.[37]

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient. Given the nature of the proposed project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity and natural gas for building uses, and transportation fuel for vehicle trips associated with the proposed project.

**Electricity**

Electricity would be provided to the project by Banning Electric Utility (BEU). BEU is a not-for-profit, publicly owned retail electrical energy distribution utility with six distribution substations and 134 miles of power lines serving nearly 13,500 citizens and business patrons. .[38] SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.[39]

Table 16 identifies BEU's specific proportional shares of electricity sources in 2022. As shown in Table 16, the 2022 BEU Power Mix has renewable energy at 81.3 percent of the overall energy resources, of which biomass and waste is at 25 percent, geothermal is at 48.7 percent, and solar energy is at 7.6 percent; other energy sources include large hydroelectric at 0.9 percent, nuclear at 9.2 percent, and unspecified sources of power at 8.6 percent.

**Natural Gas**

Natural gas would be provided to the project by Southern California Gas (SoCalGas). The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC).

The CPUC regulates natural gas utility service for approximately 11 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller investor-owned natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.

The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.

The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.

[37] State Profile Overview. [Online] [Cited: April 20, 2023.] https://www.eia.gov/state/?sid=CA#tabs-2

[38] https://www.ci.banning.ca.us/57/Banning-Electric-Utility

[39] California Energy Commission. Utility Energy Supply plans from 2015. https://www.energy.ca.gov/almanac/electricity_data/supply_forms.html

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2017, for example, California utility customers received 38% of their natural gas supply from basins located in the U.S. Southwest, 27% from Canada, 27% from the U.S. Rocky Mountain area, and 8% from production located in California."[40]

### Transportation Energy Resources

The project would attract additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. Gasoline (and other vehicle fuels) are commercially provided commodities and would be available to the project patrons and employees via commercial outlets.

The most recent data available shows the transportation sector emits 38 percent of the total greenhouse gases in the state and about 84 percent of smog-forming oxides of nitrogen (NOx).[41,42] About 36 percent of total United States energy consumption in 2021 was for transporting people and goods from one place to another. In 2022, petroleum comprised about 90 percent of all transportation energy use.[43] In 2022, about 135.06 billion gallons (or about 3.22 billion barrels) of finished motor gasoline were consumed in the United States, an average of about 370 million gallons (or about 8.81 million barrels) per day.[44]

## Regulatory Background

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

### Federal Regulations

*Corporate Average Fuel Economy (CAFE) Standards*

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.[45]

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of

[40] California Public Utilities Commission. Natural Gas and California. http://www.cpuc.ca.gov/natural_gas/
[41] CARB. California Greenhouse Gas Emissions Inventory – 2022 Edition. https://ww2.arb.ca.gov/ghg-inventory-data
[42] CARB. 2016 SIP Emission Projection Data. https://www.arb.ca.gov/app/emsinv/2017/emseic1_query.php?F_DIV=-4&F_YR=2012&F_SEASON=A&SP=SIP105ADJ&F_AREA=CA
[43] US Energy Information Administration. Use of Energy in the United States Explained: Energy Use for Transportation. https://www.eia.gov/energyexplained/?page=us_energy_transportation
[44] https://www.eia.gov/tools/faqs/faq.php?id=23&t=10
[45] https://www.nhtsa.gov/lawsregulations/corporate-average-fuel-economy.

CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012.[46]

*Intermodal Surface transportation Efficiency Act of 1991 (ISTEA)*

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

*The Transportation Equity Act of the 21st Century (TEA-21)*

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

## State Regulations

Integrated Energy Policy Report (IEPR)

Senate Bill 1389 requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2019 Integrated Energy Policy Report (2019 IEPR) was adopted February 20, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast.[47]

State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce

[46] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/safer-affordable-fuel-efficient-safe-vehicles-final-rule.

[47] California Energy Commission. Final 2019 Integrated Energy Policy Report. February 20, 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report

congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

California Building Standards Code (Title 24)

The California Building Standards Code Title 24 was previously discussed in Section 4 of this report.

*California Building Energy Efficiency Standards (Title 24, Part 6)*

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current California Building Energy Efficiency Standards (Title 24 standards) are the 2019 Title 24 standards, which became effective on January 1, 2020. The 2019 Title 24 standards include efficiency improvements to the lighting and efficiency improvements to the non-residential standards include alignment with the American Society of Heating and Air-Conditioning Engineers. For example, window operation is no longer a method allowed to meet ventilation requirements, continuous operation of central forced air system handlers used in central fan integrated ventilation system is not a permissible method of providing the dwelling unit ventilation airflow, and central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow to each dwelling unit. In addition, requirements for kitchen range hoods were also provided in the updated Section 120.1. Ventilation and Indoor Air Quality included both additions and revisions in the 2019 Code. This section now requires nonresidential and hotel/motel buildings to have air filtration systems that use forced air ducts to supply air to occupiable spaces to have air filters. Further, the air filter efficiency must be either MERV 13 or use a particle size efficiency rating specific in the Energy Code AND be equipped with air filters with a minimum 2-inch depth or minimum 1-inch depth if sized according to the equation 120.1-A. If natural ventilation is to be used the space must also use mechanical unless ventilation openings are either permanently open or controlled to stay open during occupied times.

New regulations were also adopted under Section 130.1 Indoor Lighting Controls. These included new exceptions being added for restrooms, the exception for classrooms being removed, as well as exceptions in regard to sunlight provided through skylights and overhangs.

The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

The 2022 Building Energy Efficiency Standards became effective on January 1, 2023.[48] All buildings for which an application for a building permit is submitted on or after January 1, 2023 must follow the 2022 standards. The core focus of the building standards has been efficiency, but the 2019 Energy Code ventured into onsite generation by requiring solar PV on new homes, providing significant GHG savings. The 2022 update builds off this progress with expanded solar standards and the move to onsite energy storage that will help Californians save on utility bills while bolstering the grid. The 2022 Energy Code update focuses on four key areas in new construction of homes and businesses:

[48] California Energy Commission (CEC). 2022. Building Energy Efficiency Standards. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency.

- Encouraging electric heat pump technology and use, which consumes less energy and produces fewer emissions than traditional HVACs and water heaters.
- Establishing electric-ready requirements when natural gas is installed, which positions owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The 2022 Energy Code affects homes by establishing energy budgets based on efficient heat pumps for space or water heating to encourage builders to install heat pumps over gas-fueled HVAC units; requiring homes to be electric-ready, with dedicated 240-volt outlets and space (with plumbing for water heaters) so electric appliances can eventually replace installed gas appliances; increasing minimum kitchen ventilation requirements so that fans over cooktops have higher airflow or capture efficiency to better exhaust pollution from gas cooking and improve indoor air quality; and allowing exceptions to existing solar PV standards when roof area is not available (such as for smaller homes). In addition, the effect on businesses includes establishing combined solar PV and battery standards for select businesses with systems being sized to maximize onsite use of solar energy and avoid electricity demand during times when the grid must use gas-powered plants; establishing new efficiency standards for commercial greenhouses (primarily cannabis growing); and improving efficiency standards for building envelope, various internal systems, and grid integration equipment, such as demand-responsive controls to buoy grid stability.[49,50]

*California Building Energy Efficiency Standards (Title 24, Part 11)*

The 2019 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2020. The 2019 CALGreen Code includes mandatory measures for non-residential development related to site development; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality.

As previously discussed in Section 4 of this report, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle. HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the postconstruction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of postconstruction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

[49] https://www.lightnowblog.com/2021/08/california-energy-commission-adopts-2022-building-energy-efficiency-standards/

[50] State of California Energy Commission. 2022 Building Energy Efficiency Standards Summary. https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

HCD updated section 5.303.3.3 in regard to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regard to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13. MERV 13 filters are to be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

The 2022 California Green Building Standards Code became effective on January 1, 2023.[51]

In the 2022 Standards, HCD amended Section 5.106.5.3 in regard to increasing the EV capable space percentages and adding a new requirement for installed Level 2 DCFC chargers. HCD under Section 5.106.5.4 added new regulation for electric vehicle charging readiness requirements for new construction of warehouse, grocery stores, and retail stores with planned off-street loading spaces. [52]

Senate Bill 100

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 350

As previously discussed in Section 4 of this report, Senate Bill 350 (SB 350) was signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

[51] California Building Standards Commission (CBSC). 2022. California Green Building Standards. Website: https://codes.iccsafe.org/content/CAGBC2022P1.

[52] https://www.dgs.ca.gov/BSC/Resources/2022-Title-24-California-Code-Changes

Assembly Bill 32

As discussed in Section 4 of this report, in 2006 the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include carbon sequestration projects that would remove carbon from the atmosphere and best management practices that are technologically feasible and cost effective. Please see Section 4 for further detail on AB 32.

Assembly Bill 1493/Pavley Regulations

As discussed in Section 4 of this report, California Assembly Bill 1493 enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for $CO_2$ and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

Executive Order S-1-07/Low Carbon Fuel Standard

As discussed in Section 4 of this report, Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

California Air Resources Board

*CARB's Advanced Clean Cars Program*

Closely associated with the Pavley regulations, the Advanced Clean Cars emissions control program was approved by CARB in 2012. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles for model years 2015–2025.15 The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria

pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[53]

*Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*

The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13, California Code of Regulations, Division 3, Chapter 10, Section 2435) was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fuel used by the vehicle.

*Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen, and other Criteria Pollutants, form In-Use Heavy-Duty Diesel-Fueled Vehicles*

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter, oxides of nitrogen (NOX) and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. The newer emission-controlled models would use petroleum-based fuel in a more efficient manner.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or Senate Bill 375 (SB 375), coordinates land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction mandates established in AB 32.

As previously stated in Section 4 of this report, Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

[53] California Air Resources Board, California's Advanced Clean Cars Program, January 18, 2017. www.arb.ca.gov/msprog/acc/acc.htm.

## PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

### Evaluation Criteria

In compliance with Appendix G of the State CEQA Guidelines, this report analyzes the project's anticipated energy use to determine if the project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In addition, Appendix F of the State CEQA Guidelines states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

### Methodology

Information from the CalEEMod 2022.1.1.20 Output contained in Appendix B, utilized for air quality and greenhouse gas analyses in Sections 2 and 4 of this report, was also utilized for this analysis. The CalEEMod output details project related construction equipment, transportation energy demands, and facility energy demands.

### Construction Energy Demands

The construction is anticipated to occur between the beginning of July 2024 and the end of June 2025, and be completed in one phase. Staging of construction vehicles and equipment will occur on-site. The approximately twelve-month schedule is relatively short and the project site is approximately 14.92 gross acres.

*Construction Equipment Electricity Usage Estimates*

As stated previously, Electrical service will be provided by BEU. The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed project. Based on the 2021 National Construction Estimator, Richard Pray (2021),[54] the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.37. The project plans to develop the site with an approximately 49,000 square foot industrial building. Based on Table 17, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately $1,393.56. Furthermore, as shown in Table 17, the total electricity usage from project construction related activities is estimated to be approximately 13,798 kWh.[55]

*Construction Equipment Fuel Estimates*

Fuel consumed by construction equipment would be the primary energy resource expended over the course of project construction. Fuel consumed by construction equipment was evaluated with the following assumptions:

[54] Pray, Richard. 2021 National Construction Estimator. Carlsbad : Craftsman Book Company, 2021.

[55] Assumes the project will be under the Industrial Service (IS-1) rate under BEU. https://www.banningca.gov/DocumentCenter/View/9921/Industrial-Service-Rate-Schedule---Effective-January-1-2022

- Construction schedule of 12 months
- All construction equipment was assumed to run on diesel fuel
- Typical daily use of 8 hours, with some equipment operating from ~6-7 hours
- Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/gallon (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).
- Diesel fuel would be the responsibility of the equipment operators/contractors and would be sources within the region.
- Project construction represents a "single-event" for diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources during long term operation.

Using the CalEEMod data input for the air quality and greenhouse gas analyses (Sections 2 and 4 of this report), the project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average, aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal. Table 18 shows the results of the analysis of construction equipment.

As presented in Table 18, project construction activities would consume an estimated 40,299 gallons of diesel fuel. As stated previously, project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

*Construction Worker Fuel Estimates*

It is assumed that construction worker trips are from light duty autos (LDA), light duty truck 1 (LDT1), and light duty truck 2 (LDT2) at a mix of 25 percent/50 percent/25 percent, respectively, along area roadways.[56] With respect to estimated VMT, the construction worker trips would generate an estimated 100,111 VMT. Data regarding project related construction worker trips were based on CalEEMod 2022.1.1.20 model defaults.

Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analyses (Sections 2 and 4 of this report) using information generated using CARB's 2021 EMFAC model (see Appendix B for details). An aggregate fuel efficiency of 26.02 miles per gallon (mpg) was used to calculate vehicle miles traveled for construction worker trips. Table 19 shows that an estimated 3,848 gallons of fuel would be consumed for construction worker trips.

*Construction Vendor/Hauling Fuel Estimates*

Tables 20 and 21 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 17,610 VMT. Data regarding project related construction worker trips were based on CalEEMod 2022.1.1.20 model defaults.

For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles. Therefore, vendors delivering construction material or hauling debris from the site during building construction would use medium to heavy duty vehicles with an average fuel consumption of 7.75 mpg for medium heavy-duty trucks and 6.05 mpg for heavy heavy-duty trucks (see Appendix B for details).[57] Tables 20 and 21 show that an estimated 2,552 gallons of fuel would be consumed for vendor and hauling trips.

[56] CalEEMod User's Guide Appendix C (April 2022) states that construction work trips are made by a fleet consisting of 25 percent light-duty auto (or passenger car), 50 percent light-duty truck type 1 (LDT1), and 25 percent light duty truck type 2 (LDT2).

[57] CalEEMod User's Guide Appendix C (April 2022) states that vendor trips are made by a fleet consisting of 50 percent medium trucks (MHDT) and 50 percent heavy trucks (HHDT) and that hauling and onsite truck trips are made by a fleet consisting of 100 percent HHDT.

*Construction Energy Efficiency/Conservation Measures*

Construction equipment used over the approximately twelve-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

The project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with these measures would result in a more efficient use of construction-related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, as required by California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby minimizing or eliminating unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by County building officials, and/or in response to citizen complaints.

**Operational Energy Demands**

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

*Transportation Fuel Consumption*

Using the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 4 of this report), it is assumed that an average trip for autos and light trucks was assumed to be 30.6 miles and medium trucks and 2- 4-axle trucks were assumed to travel an average of 40 miles.[58] As the project includes the development of the site with industrial uses, in order to present a worst-case scenario, it was assumed that vehicles would operate 365 days per year. Table 22 shows the estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks.[59]

The proposed project would generate 191 trips per day. The vehicle fleet mix was used from the CalEEMod output. Table 22 shows that an estimated 232,140 gallons of fuel would be consumed per year for the operation of the proposed project.

Trip generation and VMT generated by the proposed project are consistent with other similar industrial uses of similar scale and configuration as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021). That is, the proposed project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. Furthermore, the state of California consumed approximately 4.2

[58] CalEEMod default distance for W-O (work-other) is 17.4 miles (with trips changed to 40 miles per SCAQMD recommendations) and 30.6 miles for H-W (home-work).

[59] Average fuel economy based on aggregate mileage calculated in EMFAC 2021 for opening year (2025). See Appendix B for EMFAC output.

billion gallons of diesel and 15.1 billion gallons of gasoline in 2015.[60,61] Therefore, the increase in fuel consumption from the proposed project is insignificant in comparison to the State's demand. Therefore, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

*Facility Energy Demands (Electricity and Natural Gas)*

Building operation and site maintenance (including landscape maintenance) would result in the consumption of electricity (provided by BEU) and natural gas (provided by Southern California Gas Company). The annual natural gas and electricity demands were provided per the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 4 of this report) and are provided in Table 23.

As shown in Table 23, the estimated electricity demand for the proposed project is approximately 592,982 kWh per year. In 2022, the non-residential sector of the County of Riverside consumed approximately 8,720 million kWh of electricity.[62] In addition, the estimated natural gas consumption for the proposed project is approximately 935,517 kBTU per year. In 2022, the non-residential sector of the County of Riverside consumed approximately 147 million therms of gas.[63] Therefore, the increase in both electricity and natural gas demand from the proposed project is insignificant compared to the County's 2022 non-residential sector demand.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.). The proposed project would be required to comply with Title 24 standards.

Furthermore, the proposed project energy demands in total would be comparable to other non-residential projects of similar scale and configuration. Therefore, the project facilities' energy demands and energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

### RENEWABLE ENERGY AND ENERGY EFFICIENCY PLAN CONSISTENCY

Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by BEU and Southern California Gas Company.

Regarding Pavley (AB 1493) regulations, an individual project does not have the ability to comply or conflict with these regulations because they are intended for agencies and their adoption of procedures and protocols for reporting and certifying GHG emission reductions from mobile sources. However, the vehicles associated with the proposed project would be required to comply with federal and state fuel efficiency standards.

[60] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-gasoline-data-facts-and-statistics

[61] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/diesel-fuel-data-facts-and-statistics

[62] California Energy Commission, Electricity Consumption by County. https://ecdms.energy.ca.gov/elecbycounty.aspx

[63] California Energy Commission, Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CALGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

As shown in Section 4 above, the proposed project would be consistent with the applicable strategies of the CARB Scoping Plan.

### CONCLUSIONS

As supported by the preceding analyses, project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy. The proposed project does not include any unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities and is an industrial project that is not proposing any additional features that would require a larger energy demand than other industrial projects of similar scale and configuration. The energy demands of the project are anticipated to be accommodated within the context of available resources and energy delivery systems. The project would therefore not cause or result in the need for additional energy producing or transmission facilities. The project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. Notwithstanding, the project proposes industrial uses and will not have any long-term effects on an energy provider's future energy development or future energy conservation strategies.

**Table 15**
**Total Electricity System Power (California 2021)**

| Fuel Type | California In-State Generation (GWh) | Percent of California In-State Generation | Northwest Imports (GWh) | Southwest Imports (GWh) | Total Imports (GWh) | Percent of Imports | Total California Energy Mix (GWh) | Total California Power Mix |
|---|---|---|---|---|---|---|---|---|
| Coal | 303 | 0.20% | 181 | 7,788 | 7,969 | 9.50% | 8,272 | 3.00% |
| Natural Gas | 97,431 | 50.20% | 45 | 7,880 | 7,925 | 9.50% | 105,356 | 37.90% |
| Oil | 37 | 0.00% | - | - | - | 0.00% | 37 | 0.00% |
| Other (Waste Heat/Petroleum Coke) | 382 | 0.20% | 68 | 15 | 83 | 0.10% | 465 | 0.20% |
| Nuclear | 16,477 | 8.50% | 524 | 8756 | 9281 | 11.10% | 25,758 | 9.30% |
| Large Hydro | 12,036 | 6.20% | 12,042 | 1,578 | 13,620 | 16.30% | 25,656 | 9.20% |
| Unspecified Sources of Power | - | 0.00% | 8,156 | 10,731 | 18,887 | 22.60% | 18,887 | 6.80% |
| Renewables | 67,461 | 34.80% | 11,555 | 14,317 | 25,872 | 30.90% | 93,333 | 33.60% |
| Biomass | 5,381 | 2.80% | 864 | 26 | 890 | 1.10% | 6,271 | 2.30% |
| Geothermal | 11,116 | 5.70% | 192 | 1,906 | 2,098 | 2.50% | 13,214 | 4.80% |
| Small Hydro | 2,531 | 1.30% | 304 | 1 | 304 | 0.40% | 2,835 | 1.00% |
| Solar | 33,260 | 17.10% | 220 | 5,979 | 6,199 | 7.40% | 39,458 | 14.20% |
| Wind | 15,173 | 7.80% | 9,976 | 6,405 | 16,381 | 19.60% | 31,555 | 11.40% |
| Total | 194,127 | 100% | 32,572 | 51,064 | 83,636 | 100% | 277,764 | 100% |

Notes:

(1) Source: California Energy Commission. 2021 Total System Electric Generation. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation

**Table 16**
**BEU 2022 Power Content Mix**

| Energy Resources | 2022 BEU Power Mix |
|---|---|
| Eligible Renewable | 81.3% |
| *Biomass & Biowaste* | *25.0%* |
| *Geothermal* | *48.7%* |
| *Eligible Hydroelectric* | *0.0%* |
| *Solar* | *7.6%* |
| *Wind* | *0.0%* |
| Coal | 0.0% |
| Large Hydroelectric | 0.9% |
| Natural Gas | 0.0% |
| Nuclear | 9.2% |
| Other | 0.0% |
| Unspecified Sources of power* | 8.6% |
| Total | 100% |

Notes:

(1) https://www.ci.banning.ca.us/DocumentCenter/View/224/PowerContentLabel_2015_Annual?bidId=

* Unspecified sources of power means electricity from transactions that are not traceable to specific generation sources.

## Table 17
## Project Construction Power Cost and Electricity Usage

| Power Cost (per 1,000 square foot of building per month of construction) | Total Building Size (1,000 Square Foot) | Construction Duration (months) | Total Project Construction Power Cost |
|---|---|---|---|
| $2.37 | 49.000 | 12 | $1,393.56 |

| Cost per kWh[1] | Total Project Construction Electricity Usage (kWh) |
|---|---|
| $0.10 | 13,798 |

Notes:

(1) Assumes the project will be under the Industrial Service (IS-1) rate under BEU. https://www.banningca.gov/DocumentCenter/View/9921/Industrial-Service-Rate-Schedule---Effective-January-1-2022

## Table 18
## Construction Equipment Fuel Consumption Estimates

| Phase | Number of Days | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor | HP hrs/day | Total Fuel Consumption (gal diesel fuel)[1] |
|---|---|---|---|---|---|---|---|---|
| Grading | 30 | Graders | 1 | 8 | 148 | 0.41 | 485 | 787 |
| | 30 | Excavator | 2 | 8 | 36 | 0.38 | 219 | 355 |
| | 30 | Tractors/Loaders/Backhoes | 2 | 8 | 84 | 0.37 | 497 | 806 |
| | 30 | Scrapers | 2 | 8 | 423 | 0.48 | 3249 | 5,268 |
| | 30 | Rubber Tired Dozers | 1 | 8 | 367 | 0.40 | 1174 | 1,904 |
| Building Construction | 215 | Forklifts | 4 | 8 | 82 | 0.20 | 525 | 6,099 |
| | 215 | Generator Sets | 1 | 8 | 14 | 0.74 | 83 | 963 |
| | 215 | Cranes | 1 | 7 | 367 | 0.29 | 745 | 8,658 |
| | 215 | Welders | 2 | 8 | 46 | 0.45 | 331 | 3,849 |
| | 215 | Tractors/Loaders/Backhoes | 4 | 7 | 84 | 0.37 | 870 | 10,114 |
| Paving | 20 | Pavers | 2 | 8 | 81 | 0.42 | 544 | 588 |
| | 20 | Paving Equipment | 2 | 8 | 89 | 0.36 | 513 | 554 |
| | 20 | Rollers | 2 | 8 | 36 | 0.38 | 219 | 237 |
| Architectural Coating | 20 | Air Compressors | 1 | 6 | 37 | 0.48 | 107 | 115 |
| CONSTRUCTION FUEL DEMAND (gallons of diesel fuel) | | | | | | | | 40,299 |

Notes:

(1) Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp. (Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

**Table 19**
**Construction Worker Fuel Consumption Estimates**

| Phase | Number of Days | Worker Trips/Day | Trip Length (miles) | Vehicle Miles Traveled | Average Vehicle Fuel Economy (mpg) | Estimated Fuel Consumption (gallons) |
|---|---|---|---|---|---|---|
| Grading | 30 | 20 | 18.5 | 11,100 | 26.02 | 427 |
| Building Construction | 215 | 21 | 18.5 | 81,937 | 26.02 | 3,150 |
| Paving | 20 | 15 | 18.5 | 5,550 | 26.02 | 213 |
| Architectural Coating | 20 | 4 | 18.5 | 1,524 | 26.02 | 59 |
| Total Construction Worker Fuel Consumption | | | | | | 3,848 |

Notes:

(1) Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.20 defaults.

(2) Per CalEEMod User's Guide Appendix C (April 2022), CalEEMod assumes that construction work trips are made by a fleet consisting of 25 percent light-duty auto (or passenger car), 50 percent light-duty truck type 1 (LDT1), and 25 percent light duty truck type 2 (LDT2).

## Table 20
## Construction Vendor Fuel Consumption Estimates (MHD & HHD Trucks)

| Phase | Number of Days | Vendor Trips/Day | Trip Length (miles) | Vehicle Miles Traveled | Average Vehicle Fuel Economy (mpg) | Estimated Fuel Consumption (gallons) |
|---|---|---|---|---|---|---|
| Grading | 30 | 0 | 10.2 | 0 | 6.90 | 0 |
| Building Construction | 215 | 8 | 10.2 | 17,610 | 6.90 | 2,552 |
| Paving | 20 | 0 | 10.2 | 0 | 6.90 | 0 |
| Architectural Coating | 20 | 0 | 10.2 | 0 | 6.90 | 0 |
| Total Construction Vendor Fuel Consumption | | | | | | 2,552 |

Notes:

(1) Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.20 defaults.

(2) Per CalEEMod User's Guide Appendix C (April 2022), CalEEMod assumes vendor trips are made by a fleet consisting of 50 percent medium trucks (MHDT) and 50 percent heavy trucks (HHDT).

## Table 21
## Construction Hauling Fuel Consumption Estimates (HHD Trucks)

| Phase | Number of Days | Total Hauling Trips | Trip Length (miles) | Vehicle Miles Traveled | Average Vehicle Fuel Economy (mpg) | Estimated Fuel Consumption (gallons) |
|---|---|---|---|---|---|---|
| Grading | 30 | 0 | 20 | 0 | 6.05 | 0 |
| Building Construction | 215 | 0 | 20 | 0 | 6.05 | 0 |
| Paving | 20 | 0 | 20 | 0 | 6.05 | 0 |
| Architectural Coating | 20 | 0 | 20 | 0 | 6.05 | 0 |
| Total Construction Hauling Fuel Consumption | | | | | | 0 |

Notes:

(1) Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod Version 2022.1.1.20 defaults.

(2) Per CalEEMod User's Guide Appendix C (April 2022), CalEEMod assumes hauling and onsite truck trips are made by a fleet consisting of 100 percent HHDT.

## Table 22
## Estimated Vehicle Operations Fuel Consumption

| Vehicle Type | Vehicle Mix | Number of Vehicles | Average Trip (miles)[1] | Daily VMT | Average Fuel Economy (mpg) | Total Gallons per Day | Total Annual Fuel Consumption (gallons) |
|---|---|---|---|---|---|---|---|
| Light Auto | Automobile | 53 | 30.6 | 1,622 | 32.23 | 50.32 | 18,367 |
| Light Truck | Automobile | 4 | 30.6 | 122 | 24.83 | 4.93 | 1,799 |
| Light Truck | Automobile | 22 | 30.6 | 673 | 24.45 | 27.53 | 10,050 |
| Medium Truck | Automobile | 17 | 40 | 680 | 20.06 | 33.90 | 12,373 |
| Light Heavy Truck | 2-Axle Truck | 15 | 40 | 600 | 16 | 37.50 | 13,688 |
| Light Heavy Truck 10,000 lbs + | 2-Axle Truck | 4 | 40 | 160 | 15.23 | 10.51 | 3,835 |
| Medium Heavy Truck | 3-Axle Truck | 4 | 40 | 160 | 7.87 | 20.33 | 7,421 |
| Heavy Heavy Truck | 4-Axle Truck | 69 | 40 | 2,760 | 6.15 | 448.78 | 163,805 |
| Motorcycle | Automobile | 3 | 30.6 | 92 | 41.66 | 2.20 | 804 |
| Total | | 191 | -- | 6,869 | - | 636.00 | -- |
| Total Annual Fuel Consumption | | | | | | | 232,140 |

Notes:

(1) Based on the size of the site and relative location, trips were assumed to be local rather than regional.

## Table 23
## Project Annual Operational Energy Demand Summary

| Natural Gas Demand | kBTU/year[1] |
|---|---|
| General Light Industry | 935,517 |
| Total | 935,517 |

| Electricity Demand | kWh/year |
|---|---|
| General Light Industry | 225,515 |
| Parking Lot | 367,467 |
| Total | 592,982 |

Notes:

(1) Taken from the CalEEMod Version 2022.1.1.20 output (Appendix B of this report).

# 6. EMISSIONS REDUCTION MEASURES

## CONSTRUCTION MEASURES

*Adherence to SCAQMD Rule 403 is required.*

No construction mitigation is required.

## OPERATIONAL MEASURES

No operational mitigation is required.

# 7. REFERENCES


**California Air Pollution Control Officers Association**

2009 Health Risk Assessments for Proposed Land Use Projects

**California Air Resources Board**

2008 Resolution 08-43

2008 Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act

2008 ARB Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk – Frequently Asked Questions

2008 Climate Change Scoping Plan, a framework for change.

2011 Supplement to the AB 32 Scoping Plan Functional Equivalent Document

2013 Almanac of Emissions and Air Quality.
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2014 First Update to the Climate Change Scoping Plan, Building on the Framework Pursuant to AB32, the California Global Warming Solutions Act of 2006. May.

2017 California's 2017 Climate Change Scoping Plan. November.

2022 2022 Scoping Plan for Achieving Carbon Neutrality. November 16.

**City of Banning**

2006 City of Banning General Plan. January 31.

**Ganddini Group, Inc.**

2023 Brown Strauss Banning Industrial Project Traffic Impact Analysis. October 27.

**Governor's Office of Planning and Research**

2008 CEQA and Climate: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review

2018 CEQA Guideline Sections to be Added or Amended

**Intergovernmental Panel on Climate Change (IPCC).**

2014 IPCC Fifth Assessment Report, Climate Change 2014: Synthesis Report

**Office of Environmental Health Hazard Assessment**

2015 Air Toxics Hot Spots Program Risk Assessment Guidelines

**South Coast Air Quality Management District**

1993 CEQA Air Quality Handbook

2003 Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis

2005 Rule 403 Fugitive Dust

2007 2007 Air Quality Management Plan

2008 Final Localized Significance Threshold Methodology, Revised

2012 Final 2012 Air Quality Management Plan

2016 2016 Air Quality Management Plan

2021 MATES-V Multiple Air Toxics Exposure Study in the South Coast Air Basin. August.

2022 2022 Air Quality Management Plan. December 2.

**Southern California Association of Governments**

2016 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

**U.S. Environmental Protection Agency (EPA)**

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(Source: https://www.epa.gov/ghgemissions/understanding-global-warming-potentials)

**U.S. Geological Survey**

2011 Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California

# APPENDICES

Appendix A Glossary

Appendix B CalEEMod Model Detailed Report & EMFAC Data

# APPENDIX A

# GLOSSARY

| | |
|---|---|
| AQMP | Air Quality Management Plan |
| BACT | Best Available Control Technologies |
| CAAQS | California Ambient Air Quality Standards |
| CalEPA | California Environmental Protection Agency |
| CARB | California Air Resources Board |
| CCAA | California Clean Air Act |
| CCAR | California Climate Action Registry |
| CEQA | California Environmental Quality Act |
| CFCs | Chlorofluorocarbons |
| $CH_4$ | Methane |
| CNG | Compressed natural gas |
| CO | Carbon monoxide |
| $CO_2$ | Carbon dioxide |
| $CO_2e$ | Carbon dioxide equivalent |
| DPM | Diesel particulate matter |
| EPA | U.S. Environmental Protection Agency |
| GHG | Greenhouse gas |
| GWP | Global warming potential |
| HIDPM | Hazard Index Diesel Particulate Matter |
| HFCs | Hydrofluorocarbons |
| IPCC | International Panel on Climate Change |
| LCFS | Low Carbon Fuel Standard |
| LST | Localized Significant Thresholds |
| $MTCO_2e$ | Metric tons of carbon dioxide equivalent |
| $MMTCO_2e$ | Million metric tons of carbon dioxide equivalent |
| MPO | Metropolitan Planning Organization |
| NAAQS | National Ambient Air Quality Standards |
| NOx | Nitrogen Oxides |
| $NO_2$ | Nitrogen dioxide |
| $N_2O$ | Nitrous oxide |
| $O_3$ | Ozone |
| OPR | Governor's Office of Planning and Research |
| PFCs | Perfluorocarbons |
| PM | Particle matter |
| PM10 | Particles that are less than 10 micrometers in diameter |
| PM2.5 | Particles that are less than 2.5 micrometers in diameter |
| PMI | Point of maximum impact |
| PPM | Parts per million |
| PPB | Parts per billion |
| RTIP | Regional Transportation Improvement Plan |
| RTP | Regional Transportation Plan |
| SANBAG | San Bernardino Association of Governments |
| SCAB | South Coast Air Basin |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SSAB | Salton Sea Air Basin |
| $SF_6$ | Sulfur hexafluoride |
| SIP | State Implementation Plan |
| SOx | Sulfur Oxides |
| TAC | Toxic air contaminants |
| VOC | Volatile organic compounds |

# APPENDIX B

# CALEEMOD MODEL DETAILED REPORT & EMFAC DATA

# 19588 Brown Strauss Industrial Project Detailed Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | 19588 Brown Strauss Industrial Project |
| Construction Start Date | 7/1/2024 |
| Operational Year | 2025 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.50 |
| Precipitation (days) | 19.2 |
| Location | 33.92269925474096, -116.89204801606418 |
| County | Riverside-South Coast |
| City | Banning |
| Air District | South Coast AQMD |
| Air Basin | South Coast |
| TAZ | 5635 |
| EDFZ | 11 |
| Electric Utility | City of Banning Electric Department |
| Gas Utility | Southern California Gas |
| App Version | 2022.1.1.20 |

## 1.2. Land Use Types

| Land Use Subtype | Size | Unit | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehouse-Rail | 49.0 | 1000sqft | 1.07 | 49,000 | 62,456 | — | — | — |
| Parking Lot | 34.0 | Space | 9.63 | 0.00 | 0.00 | — | — | — |
| Other Non-Asphalt Surfaces | 2.13 | Acre | 2.13 | 0.00 | 0.00 | — | — | — |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

# 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 4.30 | 33.7 | 34.4 | 31.8 | 0.06 | 1.45 | 3.85 | 5.30 | 1.33 | 1.49 | 2.82 | — | 6,886 | 6,886 | 0.28 | 0.09 | 2.75 | 6,913 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 2.02 | 1.69 | 14.9 | 18.9 | 0.03 | 0.64 | 0.34 | 0.98 | 0.59 | 0.08 | 0.67 | — | 3,533 | 3,533 | 0.14 | 0.07 | 0.05 | 3,559 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.92 | 2.24 | 6.99 | 7.89 | 0.01 | 0.30 | 0.41 | 0.71 | 0.27 | 0.14 | 0.42 | — | 1,554 | 1,554 | 0.06 | 0.03 | 0.27 | 1,563 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.17 | 0.41 | 1.27 | 1.44 | < 0.005 | 0.05 | 0.07 | 0.13 | 0.05 | 0.03 | 0.08 | — | 257 | 257 | 0.01 | < 0.005 | 0.04 | 259 |

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 4.30 | 3.62 | 34.4 | 31.8 | 0.06 | 1.45 | 3.85 | 5.30 | 1.33 | 1.49 | 2.82 | — | 6,886 | 6,886 | 0.28 | 0.07 | 1.88 | 6,913 |
| 2025 | 3.10 | 33.7 | 22.3 | 31.7 | 0.05 | 0.93 | 0.59 | 1.52 | 0.85 | 0.14 | 1.00 | — | 5,462 | 5,462 | 0.22 | 0.09 | 2.75 | 5,498 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 2.02 | 1.69 | 14.9 | 18.9 | 0.03 | 0.64 | 0.34 | 0.98 | 0.59 | 0.08 | 0.67 | — | 3,533 | 3,533 | 0.14 | 0.07 | 0.05 | 3,559 |
| 2025 | 1.88 | 1.57 | 13.9 | 18.7 | 0.03 | 0.55 | 0.34 | 0.89 | 0.51 | 0.08 | 0.59 | — | 3,524 | 3,524 | 0.14 | 0.07 | 0.05 | 3,549 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 0.92 | 0.77 | 6.99 | 7.89 | 0.01 | 0.30 | 0.41 | 0.71 | 0.27 | 0.14 | 0.42 | — | 1,554 | 1,554 | 0.06 | 0.03 | 0.27 | 1,563 |
| 2025 | 0.64 | 2.24 | 4.73 | 6.44 | 0.01 | 0.19 | 0.12 | 0.31 | 0.18 | 0.03 | 0.20 | — | 1,188 | 1,188 | 0.05 | 0.02 | 0.26 | 1,196 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 0.17 | 0.14 | 1.27 | 1.44 | < 0.005 | 0.05 | 0.07 | 0.13 | 0.05 | 0.03 | 0.08 | — | 257 | 257 | 0.01 | < 0.005 | 0.04 | 259 |
| 2025 | 0.12 | 0.41 | 0.86 | 1.17 | < 0.005 | 0.03 | 0.02 | 0.06 | 0.03 | 0.01 | 0.04 | — | 197 | 197 | 0.01 | < 0.005 | 0.04 | 198 |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 3.06 | 3.75 | 23.4 | 34.0 | 0.14 | 0.87 | 5.29 | 6.16 | 0.80 | 1.38 | 2.18 | 46.5 | 16,320 | 16,366 | 5.18 | 1.57 | 36.3 | 16,999 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 2.65 | 3.37 | 23.9 | 29.5 | 0.14 | 0.86 | 5.29 | 6.15 | 0.80 | 1.38 | 2.18 | 46.5 | 16,117 | 16,164 | 5.18 | 1.57 | 0.94 | 16,762 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 2.46 | 3.23 | 20.4 | 26.3 | 0.13 | 0.67 | 5.23 | 5.91 | 0.63 | 1.37 | 1.99 | 46.5 | 15,229 | 15,275 | 5.13 | 1.56 | 15.7 | 15,885 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.45 | 0.59 | 3.73 | 4.79 | 0.02 | 0.12 | 0.95 | 1.08 | 0.11 | 0.25 | 0.36 | 7.70 | 2,521 | 2,529 | 0.85 | 0.26 | 2.60 | 2,630 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 1.08 | 0.81 | 10.6 | 13.9 | 0.11 | 0.18 | 5.29 | 5.47 | 0.17 | 1.38 | 1.55 | — | 11,969 | 11,969 | 0.23 | 1.48 | 36.3 | 12,452 |
| Area | 0.38 | 1.60 | 0.02 | 2.13 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.76 | 8.76 | < 0.005 | < 0.005 | — | 8.80 |
| Energy | 0.03 | 0.01 | 0.25 | 0.21 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 1,648 | 1,648 | 0.12 | 0.01 | — | 1,654 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 21.7 | 102 | 124 | 2.23 | 0.05 | — | 196 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 24.8 | 0.00 | 24.8 | 2.48 | 0.00 | — | 86.8 |
| Off-Road | 1.58 | 1.32 | 12.5 | 17.7 | 0.02 | 0.66 | — | 0.66 | 0.61 | — | 0.61 | — | 2,592 | 2,592 | 0.11 | 0.02 | — | 2,601 |
| Total | 3.06 | 3.75 | 23.4 | 34.0 | 0.14 | 0.87 | 5.29 | 6.16 | 0.80 | 1.38 | 2.18 | 46.5 | 16,320 | 16,366 | 5.18 | 1.57 | 36.3 | 16,999 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 1.05 | 0.78 | 11.1 | 11.6 | 0.11 | 0.18 | 5.29 | 5.47 | 0.17 | 1.38 | 1.55 | — | 11,776 | 11,776 | 0.23 | 1.48 | 0.94 | 12,224 |
| Area | — | 1.25 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.03 | 0.01 | 0.25 | 0.21 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 1,648 | 1,648 | 0.12 | 0.01 | — | 1,654 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 21.7 | 102 | 124 | 2.23 | 0.05 | — | 196 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 24.8 | 0.00 | 24.8 | 2.48 | 0.00 | — | 86.8 |
| Off-Road | 1.58 | 1.32 | 12.5 | 17.7 | 0.02 | 0.66 | — | 0.66 | 0.61 | — | 0.61 | — | 2,592 | 2,592 | 0.11 | 0.02 | — | 2,601 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 2.65 | 3.37 | 23.9 | 29.5 | 0.14 | 0.86 | 5.29 | 6.15 | 0.80 | 1.38 | 2.18 | 46.5 | 16,117 | 16,164 | 5.18 | 1.57 | 0.94 | 16,762 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 1.05 | 0.78 | 11.2 | 12.0 | 0.11 | 0.18 | 5.23 | 5.41 | 0.17 | 1.37 | 1.54 | — | 11,803 | 11,803 | 0.23 | 1.48 | 15.7 | 12,266 |
| Area | 0.26 | 1.49 | 0.01 | 1.46 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 6.00 | 6.00 | < 0.005 | < 0.005 | — | 6.02 |
| Energy | 0.03 | 0.01 | 0.25 | 0.21 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 1,472 | 1,472 | 0.11 | 0.01 | — | 1,478 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 21.7 | 102 | 124 | 2.23 | 0.05 | — | 196 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 24.8 | 0.00 | 24.8 | 2.48 | 0.00 | — | 86.8 |
| Off-Road | 1.12 | 0.94 | 8.94 | 12.6 | 0.02 | 0.47 | — | 0.47 | 0.43 | — | 0.43 | — | 1,846 | 1,846 | 0.07 | 0.01 | — | 1,853 |
| Total | 2.46 | 3.23 | 20.4 | 26.3 | 0.13 | 0.67 | 5.23 | 5.91 | 0.63 | 1.37 | 1.99 | 46.5 | 15,229 | 15,275 | 5.13 | 1.56 | 15.7 | 15,885 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.19 | 0.14 | 2.05 | 2.19 | 0.02 | 0.03 | 0.95 | 0.99 | 0.03 | 0.25 | 0.28 | — | 1,954 | 1,954 | 0.04 | 0.25 | 2.60 | 2,031 |
| Area | 0.05 | 0.27 | < 0.005 | 0.27 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 0.99 | 0.99 | < 0.005 | < 0.005 | — | 1.00 |
| Energy | 0.01 | < 0.005 | 0.05 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 244 | 244 | 0.02 | < 0.005 | — | 245 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 3.59 | 16.9 | 20.5 | 0.37 | 0.01 | — | 32.4 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 4.11 | 0.00 | 4.11 | 0.41 | 0.00 | — | 14.4 |
| Off-Road | 0.20 | 0.17 | 1.63 | 2.30 | < 0.005 | 0.09 | — | 0.09 | 0.08 | — | 0.08 | — | 306 | 306 | 0.01 | < 0.005 | — | 307 |
| Total | 0.45 | 0.59 | 3.73 | 4.79 | 0.02 | 0.12 | 0.95 | 1.08 | 0.11 | 0.25 | 0.36 | 7.70 | 2,521 | 2,529 | 0.85 | 0.26 | 2.60 | 2,630 |

# 3. Construction Emissions Details

## 3.1. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | 4.19 | 3.52 | 34.3 | 30.2 | 0.06 | 1.45 | — | 1.45 | 1.33 | — | 1.33 | — | 6,598 | 6,598 | 0.27 | 0.05 | — | 6,621 |
| Dust From Material Movement | — | — | — | — | — | — | 3.59 | 3.59 | — | 1.42 | 1.42 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.34 | 0.29 | 2.82 | 2.48 | 0.01 | 0.12 | — | 0.12 | 0.11 | — | 0.11 | — | 542 | 542 | 0.02 | < 0.005 | — | 544 |
| Dust From Material Movement | — | — | — | — | — | — | 0.30 | 0.30 | — | 0.12 | 0.12 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.06 | 0.05 | 0.51 | 0.45 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 89.8 | 89.8 | < 0.005 | < 0.005 | — | 90.1 |
| Dust From Material Movement | — | — | — | — | — | — | 0.05 | 0.05 | — | 0.02 | 0.02 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.10 | 1.67 | 0.00 | 0.00 | 0.26 | 0.26 | 0.00 | 0.06 | 0.06 | — | 288 | 288 | 0.01 | 0.01 | 1.14 | 292 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.11 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 22.0 | 22.0 | < 0.005 | < 0.005 | 0.04 | 22.3 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.65 | 3.65 | < 0.005 | < 0.005 | 0.01 | 3.70 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.3. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.90 | 1.59 | 14.4 | 17.5 | 0.03 | 0.64 | — | 0.64 | 0.59 | — | 0.59 | — | 3,012 | 3,012 | 0.12 | 0.02 | — | 3,022 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.90 | 1.59 | 14.4 | 17.5 | 0.03 | 0.64 | — | 0.64 | 0.59 | — | 0.59 | — | 3,012 | 3,012 | 0.12 | 0.02 | — | 3,022 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.53 | 0.44 | 4.04 | 4.90 | 0.01 | 0.18 | — | 0.18 | 0.16 | — | 0.16 | — | 843 | 843 | 0.03 | 0.01 | — | 846 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.10 | 0.08 | 0.74 | 0.89 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 140 | 140 | 0.01 | < 0.005 | — | 140 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.12 | 0.11 | 0.10 | 1.72 | 0.00 | 0.00 | 0.27 | 0.27 | 0.00 | 0.06 | 0.06 | — | 296 | 296 | 0.01 | 0.01 | 1.18 | 301 |
| Vendor | 0.01 | 0.01 | 0.28 | 0.09 | < 0.005 | < 0.005 | 0.07 | 0.07 | < 0.005 | 0.02 | 0.02 | — | 249 | 249 | 0.01 | 0.04 | 0.70 | 261 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.12 | 1.30 | 0.00 | 0.00 | 0.27 | 0.27 | 0.00 | 0.06 | 0.06 | — | 272 | 272 | 0.01 | 0.01 | 0.03 | 276 |
| Vendor | 0.01 | 0.01 | 0.30 | 0.09 | < 0.005 | < 0.005 | 0.07 | 0.07 | < 0.005 | 0.02 | 0.02 | — | 250 | 250 | 0.01 | 0.04 | 0.02 | 261 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.03 | 0.03 | 0.38 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.02 | 0.02 | — | 77.2 | 77.2 | < 0.005 | < 0.005 | 0.14 | 78.2 |
| Vendor | < 0.005 | < 0.005 | 0.08 | 0.02 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | 0.01 | 0.01 | — | 69.8 | 69.8 | < 0.005 | 0.01 | 0.08 | 73.0 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.01 | 0.01 | 0.01 | 0.07 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 12.8 | 12.8 | < 0.005 | < 0.005 | 0.02 | 13.0 |
| Vendor | < 0.005 | < 0.005 | 0.02 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 11.6 | 11.6 | < 0.005 | < 0.005 | 0.01 | 12.1 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.77 | 1.48 | 13.5 | 17.4 | 0.03 | 0.55 | — | 0.55 | 0.51 | — | 0.51 | — | 3,012 | 3,012 | 0.12 | 0.02 | — | 3,022 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.77 | 1.48 | 13.5 | 17.4 | 0.03 | 0.55 | — | 0.55 | 0.51 | — | 0.51 | — | 3,012 | 3,012 | 0.12 | 0.02 | — | 3,022 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.54 | 0.45 | 4.14 | 5.35 | 0.01 | 0.17 | — | 0.17 | 0.16 | — | 0.16 | — | 925 | 925 | 0.04 | 0.01 | — | 929 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.10 | 0.08 | 0.76 | 0.98 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 153 | 153 | 0.01 | < 0.005 | — | 154 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.09 | 0.09 | 1.59 | 0.00 | 0.00 | 0.27 | 0.27 | 0.00 | 0.06 | 0.06 | — | 290 | 290 | 0.01 | 0.01 | 1.07 | 294 |
| Vendor | 0.01 | 0.01 | 0.27 | 0.08 | < 0.005 | < 0.005 | 0.07 | 0.07 | < 0.005 | 0.02 | 0.02 | — | 246 | 246 | 0.01 | 0.04 | 0.70 | 258 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.10 | 0.09 | 0.10 | 1.20 | 0.00 | 0.00 | 0.27 | 0.27 | 0.00 | 0.06 | 0.06 | — | 267 | 267 | 0.01 | 0.01 | 0.03 | 270 |
| Vendor | 0.01 | < 0.005 | 0.28 | 0.09 | < 0.005 | < 0.005 | 0.07 | 0.07 | < 0.005 | 0.02 | 0.02 | — | 246 | 246 | 0.01 | 0.04 | 0.02 | 257 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.03 | 0.03 | 0.39 | 0.00 | 0.00 | 0.08 | 0.08 | 0.00 | 0.02 | 0.02 | — | 83.0 | 83.0 | < 0.005 | < 0.005 | 0.14 | 84.1 |
| Vendor | < 0.005 | < 0.005 | 0.09 | 0.03 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | 0.01 | 0.01 | — | 75.5 | 75.5 | < 0.005 | 0.01 | 0.09 | 79.1 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | < 0.005 | 0.01 | 0.07 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 13.7 | 13.7 | < 0.005 | < 0.005 | 0.02 | 13.9 |
| Vendor | < 0.005 | < 0.005 | 0.02 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 12.5 | 12.5 | < 0.005 | < 0.005 | 0.02 | 13.1 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.7. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.95 | 0.80 | 7.45 | 9.98 | 0.01 | 0.35 | — | 0.35 | 0.32 | — | 0.32 | — | 1,511 | 1,511 | 0.06 | 0.01 | — | 1,517 |
| Paving | — | 1.26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.05 | 0.04 | 0.41 | 0.55 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 82.8 | 82.8 | < 0.005 | < 0.005 | — | 83.1 |
| Paving | — | 0.07 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.07 | 0.10 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 13.7 | 13.7 | < 0.005 | < 0.005 | — | 13.8 |
| Paving | — | 0.01 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.07 | 0.07 | 1.16 | 0.00 | 0.00 | 0.20 | 0.20 | 0.00 | 0.05 | 0.05 | — | 211 | 211 | 0.01 | 0.01 | 0.78 | 215 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 10.8 | 10.8 | < 0.005 | < 0.005 | 0.02 | 10.9 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.79 | 1.79 | < 0.005 | < 0.005 | < 0.005 | 1.81 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.9. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.15 | 0.13 | 0.88 | 1.14 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 134 | 134 | 0.01 | < 0.005 | — | 134 |
| Architectural Coatings | — | 29.8 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | 0.01 | 0.01 | 0.05 | 0.06 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 7.32 | 7.32 | < 0.005 | < 0.005 | — | 7.34 |
| Architectural Coatings | — | 1.64 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 1.21 | 1.21 | < 0.005 | < 0.005 | — | 1.22 |
| Architectural Coatings | — | 0.30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.02 | 0.32 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.01 | 0.01 | — | 58.0 | 58.0 | < 0.005 | < 0.005 | 0.21 | 58.9 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 2.96 | 2.96 | < 0.005 | < 0.005 | 0.01 | 3.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.49 | 0.49 | < 0.005 | < 0.005 | < 0.005 | 0.50 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# 4. Operations Emissions Details

## 4.1. Mobile Emissions by Land Use

### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | 1.08 | 0.81 | 10.6 | 13.9 | 0.11 | 0.18 | 5.29 | 5.47 | 0.17 | 1.38 | 1.55 | — | 11,969 | 11,969 | 0.23 | 1.48 | 36.3 | 12,452 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 1.08 | 0.81 | 10.6 | 13.9 | 0.11 | 0.18 | 5.29 | 5.47 | 0.17 | 1.38 | 1.55 | — | 11,969 | 11,969 | 0.23 | 1.48 | 36.3 | 12,452 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | 1.05 | 0.78 | 11.1 | 11.6 | 0.11 | 0.18 | 5.29 | 5.47 | 0.17 | 1.38 | 1.55 | — | 11,776 | 11,776 | 0.23 | 1.48 | 0.94 | 12,224 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 1.05 | 0.78 | 11.1 | 11.6 | 0.11 | 0.18 | 5.29 | 5.47 | 0.17 | 1.38 | 1.55 | — | 11,776 | 11,776 | 0.23 | 1.48 | 0.94 | 12,224 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | 0.19 | 0.14 | 2.05 | 2.19 | 0.02 | 0.03 | 0.95 | 0.99 | 0.03 | 0.25 | 0.28 | — | 1,954 | 1,954 | 0.04 | 0.25 | 2.60 | 2,031 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.19 | 0.14 | 2.05 | 2.19 | 0.02 | 0.03 | 0.95 | 0.99 | 0.03 | 0.25 | 0.28 | — | 1,954 | 1,954 | 0.04 | 0.25 | 2.60 | 2,031 |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | — | — | — | — | — | — | — | — | — | — | — | — | 280 | 280 | 0.02 | < 0.005 | — | 281 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 456 | 456 | 0.03 | < 0.005 | — | 458 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| undefine | — | — | — | — | — | — | — | — | — | — | — | — | 611 | 611 | 0.04 | 0.01 | — | 614 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 1,348 | 1,348 | 0.10 | 0.01 | — | 1,354 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | — | — | — | — | — | — | — | — | — | — | — | — | 280 | 280 | 0.02 | < 0.005 | — | 281 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 456 | 456 | 0.03 | < 0.005 | — | 458 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| undefined | — | — | — | — | — | — | — | — | — | — | — | — | 611 | 611 | 0.04 | 0.01 | — | 614 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 1,348 | 1,348 | 0.10 | 0.01 | — | 1,354 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | — | — | — | — | — | — | — | — | — | — | — | — | 46.4 | 46.4 | < 0.005 | < 0.005 | — | 46.6 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 75.5 | 75.5 | 0.01 | < 0.005 | — | 75.9 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| undefined | — | — | — | — | — | — | — | — | — | — | — | — | 72.1 | 72.1 | 0.01 | < 0.005 | — | 72.4 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 194 | 194 | 0.01 | < 0.005 | — | 195 |

### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | 0.03 | 0.01 | 0.25 | 0.21 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 300 | 300 | 0.03 | < 0.005 | — | 301 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.03 | 0.01 | 0.25 | 0.21 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 300 | 300 | 0.03 | < 0.005 | — | 301 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | 0.03 | 0.01 | 0.25 | 0.21 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 300 | 300 | 0.03 | < 0.005 | — | 301 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.03 | 0.01 | 0.25 | 0.21 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 300 | 300 | 0.03 | < 0.005 | — | 301 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | 0.01 | < 0.005 | 0.05 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 49.6 | 49.6 | < 0.005 | < 0.005 | — | 49.8 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.01 | < 0.005 | 0.05 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 49.6 | 49.6 | < 0.005 | < 0.005 | — | 49.8 |

## 4.3. Area Emissions by Source

### 4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 1.09 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.16 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.38 | 0.35 | 0.02 | 2.13 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.76 | 8.76 | < 0.005 | < 0.005 | — | 8.80 |
| Total | 0.38 | 1.60 | 0.02 | 2.13 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.76 | 8.76 | < 0.005 | < 0.005 | — | 8.80 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 1.09 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.16 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | 1.25 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 0.20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.05 | 0.04 | < 0.005 | 0.27 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 0.99 | 0.99 | < 0.005 | < 0.005 | — | 1.00 |
| Total | 0.05 | 0.27 | < 0.005 | 0.27 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 0.99 | 0.99 | < 0.005 | < 0.005 | — | 1.00 |

## 4.4. Water Emissions by Land Use

### 4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | — | — | — | — | — | — | — | — | — | — | — | 21.7 | 102 | 124 | 2.23 | 0.05 | — | 196 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 21.7 | 102 | 124 | 2.23 | 0.05 | — | 196 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | — | — | — | — | — | — | — | — | — | — | — | 21.7 | 102 | 124 | 2.23 | 0.05 | — | 196 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 21.7 | 102 | 124 | 2.23 | 0.05 | — | 196 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-Rail | — | — | — | — | — | — | — | — | — | — | — | 3.59 | 16.9 | 20.5 | 0.37 | 0.01 | — | 32.4 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 3.59 | 16.9 | 20.5 | 0.37 | 0.01 | — | 32.4 |

## 4.5. Waste Emissions by Land Use

### 4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unrefrige Warehouse-Rail | — | — | — | — | — | — | — | — | — | — | — | 24.8 | 0.00 | 24.8 | 2.48 | 0.00 | — | 86.8 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 24.8 | 0.00 | 24.8 | 2.48 | 0.00 | — | 86.8 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrige rated Warehou se-Rail | — | — | — | — | — | — | — | — | — | — | — | 24.8 | 0.00 | 24.8 | 2.48 | 0.00 | — | 86.8 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 24.8 | 0.00 | 24.8 | 2.48 | 0.00 | — | 86.8 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrige rated Warehou se-Rail | — | — | — | — | — | — | — | — | — | — | — | 4.11 | 0.00 | 4.11 | 0.41 | 0.00 | — | 14.4 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 4.11 | 0.00 | 4.11 | 0.41 | 0.00 | — | 14.4 |

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.7. Offroad Emissions By Equipment Type

### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Forklifts | 1.58 | 1.32 | 12.5 | 17.7 | 0.02 | 0.66 | — | 0.66 | 0.61 | — | 0.61 | — | 2,592 | 2,592 | 0.11 | 0.02 | — | 2,601 |
| Cranes | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 1.58 | 1.32 | 12.5 | 17.7 | 0.02 | 0.66 | — | 0.66 | 0.61 | — | 0.61 | — | 2,592 | 2,592 | 0.11 | 0.02 | — | 2,601 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Forklifts | 1.58 | 1.32 | 12.5 | 17.7 | 0.02 | 0.66 | — | 0.66 | 0.61 | — | 0.61 | — | 2,592 | 2,592 | 0.11 | 0.02 | — | 2,601 |
| Cranes | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 1.58 | 1.32 | 12.5 | 17.7 | 0.02 | 0.66 | — | 0.66 | 0.61 | — | 0.61 | — | 2,592 | 2,592 | 0.11 | 0.02 | — | 2,601 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Forklifts | 0.20 | 0.17 | 1.63 | 2.30 | < 0.005 | 0.09 | — | 0.09 | 0.08 | — | 0.08 | — | 306 | 306 | 0.01 | < 0.005 | — | 307 |
| Cranes | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.20 | 0.17 | 1.63 | 2.30 | < 0.005 | 0.09 | — | 0.09 | 0.08 | — | 0.08 | — | 306 | 306 | 0.01 | < 0.005 | — | 307 |

## 4.8. Stationary Emissions By Equipment Type

### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipme Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.10. Soil Carbon Accumulation By Vegetation Type

### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

# 5. Activity Data

## 5.1. Construction Schedule

| Phase Name | Phase Type | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description |
|---|---|---|---|---|---|---|
| Grading | Grading | 7/1/2024 | 8/10/2024 | 5.00 | 30.0 | — |
| Building Construction | Building Construction | 8/11/2024 | 6/6/2025 | 5.00 | 215 | — |

| | | | | | | |
|---|---|---|---|---|---|---|
| Paving | Paving | 5/25/2025 | 6/21/2025 | 5.00 | 20.0 | — |
| Architectural Coating | Architectural Coating | 6/3/2025 | 6/30/2025 | 5.00 | 20.0 | — |

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Grading | Excavators | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Grading | Tractors/Loaders/Backhoes | Diesel | Average | 2.00 | 8.00 | 84.0 | 0.37 |
| Grading | Scrapers | Diesel | Average | 2.00 | 8.00 | 423 | 0.48 |
| Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| Building Construction | Forklifts | Diesel | Average | 4.00 | 8.00 | 82.0 | 0.20 |
| Building Construction | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 7.00 | 367 | 0.29 |
| Building Construction | Welders | Diesel | Average | 2.00 | 8.00 | 46.0 | 0.45 |
| Building Construction | Tractors/Loaders/Backhoes | Diesel | Average | 4.00 | 7.00 | 84.0 | 0.37 |
| Paving | Pavers | Diesel | Average | 2.00 | 8.00 | 81.0 | 0.42 |
| Paving | Paving Equipment | Diesel | Average | 2.00 | 8.00 | 89.0 | 0.36 |
| Paving | Rollers | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Grading | — | — | — | — |
| Grading | Worker | 20.0 | 18.5 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 10.2 | HHDT,MHDT |
| Grading | Hauling | 0.00 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 20.6 | 18.5 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 8.03 | 10.2 | HHDT,MHDT |
| Building Construction | Hauling | 0.00 | 20.0 | HHDT |
| Building Construction | Onsite truck | — | — | HHDT |
| Paving | — | — | — | — |
| Paving | Worker | 15.0 | 18.5 | LDA,LDT1,LDT2 |
| Paving | Vendor | — | 10.2 | HHDT,MHDT |
| Paving | Hauling | 0.00 | 20.0 | HHDT |
| Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 4.12 | 18.5 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 10.2 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

| Control Strategies Applied | PM10 Reduction | PM2.5 Reduction |
|---|---|---|
| Water unpaved roads twice daily | 55% | 55% |
| Limit vehicle speeds on unpaved roads to 25 mph | 44% | 44% |

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|---|
| Architectural Coating | 0.00 | 0.00 | 73,500 | 24,500 | 30,736 |

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name | Material Imported (cy) | Material Exported (cy) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|---|---|---|---|---|---|
| Grading | — | — | 90.0 | 0.00 | — |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | 11.8 |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|---|---|---|---|
| Water Exposed Area | 2 | 61% | 61% |

## 5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|---|---|---|
| Unrefrigerated Warehouse-Rail | 0.00 | 0% |
| Parking Lot | 9.63 | 100% |
| Other Non-Asphalt Surfaces | 2.13 | 0% |

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|---|---|---|---|---|
| 2024 | 0.00 | 453 | 0.03 | < 0.005 |

| | | | | |
|---|---|---|---|---|
| 2025 | 0.00 | 453 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehouse-Rail | 191 | 191 | 191 | 69,752 | 6,709 | 6,709 | 6,709 | 2,448,936 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|
| 0 | 0.00 | 73,500 | 24,500 | 30,736 |

### 5.10.3. Landscape Equipment

| Season | Unit | Value |
|---|---|---|
| Snow Days | day/yr | 0.00 |
| Summer Days | day/yr | 250 |

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-Rail | 225,515 | 453 | 0.0330 | 0.0040 | 935,517 |
| Parking Lot | 367,467 | 453 | 0.0330 | 0.0040 | 0.00 |
| Other Non-Asphalt Surfaces | 0.00 | 453 | 0.0330 | 0.0040 | 0.00 |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| Unrefrigerated Warehouse-Rail | 11,331,250 | 990,284 |
| Parking Lot | 0.00 | 0.00 |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| Unrefrigerated Warehouse-Rail | 46.1 | — |
| Parking Lot | 0.00 | — |
| Other Non-Asphalt Surfaces | 0.00 | — |

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---|---|---|---|---|---|---|---|

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|
| Forklifts | Diesel | Average | 8.00 | 17.0 | 82.0 | 0.20 |
| Cranes | Electric | Average | 1.00 | 17.0 | 367 | 0.29 |

## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|---|---|---|---|---|---|---|

### 5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|---|---|---|---|---|---|

## 5.17. User Defined

| Equipment Type | Fuel Type |
|---|---|

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

# 6. Climate Risk Detailed Report

## 6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

| Climate Hazard | Result for Project Location | Unit |
|---|---|---|
| Temperature and Extreme Heat | 31.8 | annual days of extreme heat |
| Extreme Precipitation | 5.45 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 23.6 | annual hectares burned |

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

## 6.2. Initial Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | N/A | N/A | N/A | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | N/A | N/A | N/A | N/A |
| Wildfire | N/A | N/A | N/A | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | N/A | N/A | N/A | N/A |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

## 6.3. Adjusted Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | N/A | N/A | N/A | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | N/A | N/A | N/A | N/A |
| Wildfire | N/A | N/A | N/A | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |

| | | | | |
|---|---|---|---|---|
| Air Quality Degradation | N/A | N/A | N/A | N/A |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

## 6.4. Climate Risk Reduction Measures

# 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Exposure Indicators | — |
| AQ-Ozone | 97.0 |
| AQ-PM | 45.3 |
| AQ-DPM | 53.7 |
| Drinking Water | 59.0 |
| Lead Risk Housing | 41.8 |
| Pesticides | 0.00 |
| Toxic Releases | 20.7 |
| Traffic | 79.7 |
| Effect Indicators | — |
| CleanUp Sites | 53.4 |
| Groundwater | 0.00 |
| Haz Waste Facilities/Generators | 81.5 |
| Impaired Water Bodies | 0.00 |
| Solid Waste | 25.7 |

| | |
|---|---|
| Sensitive Population | — |
| Asthma | 89.4 |
| Cardio-vascular | 98.2 |
| Low Birth Weights | 26.6 |
| Socioeconomic Factor Indicators | — |
| Education | 82.8 |
| Housing | 30.2 |
| Linguistic | 47.1 |
| Poverty | 87.6 |
| Unemployment | 77.8 |

## 7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Economic | — |
| Above Poverty | 25.92069806 |
| Employed | 1.000898242 |
| Median HI | 28.89772873 |
| Education | — |
| Bachelor's or higher | 27.90966252 |
| High school enrollment | 100 |
| Preschool enrollment | 4.260233543 |
| Transportation | — |
| Auto Access | 44.50147568 |
| Active commuting | 21.84011292 |
| Social | — |
| 2-parent households | 53.68920826 |

| | |
|---|---|
| Voting | 36.84075452 |
| Neighborhood | — |
| Alcohol availability | 73.73283716 |
| Park access | 22.95649942 |
| Retail density | 14.44886437 |
| Supermarket access | 40.24124214 |
| Tree canopy | 1.642499679 |
| Housing | — |
| Homeownership | 52.86795842 |
| Housing habitability | 69.62658796 |
| Low-inc homeowner severe housing cost burden | 47.17053766 |
| Low-inc renter severe housing cost burden | 91.21006031 |
| Uncrowded housing | 34.15886052 |
| Health Outcomes | — |
| Insured adults | 21.67329655 |
| Arthritis | 0.0 |
| Asthma ER Admissions | 8.2 |
| High Blood Pressure | 0.0 |
| Cancer (excluding skin) | 0.0 |
| Asthma | 0.0 |
| Coronary Heart Disease | 0.0 |
| Chronic Obstructive Pulmonary Disease | 0.0 |
| Diagnosed Diabetes | 0.0 |
| Life Expectancy at Birth | 33.4 |
| Cognitively Disabled | 30.7 |
| Physically  Disabled | 12.7 |
| Heart Attack ER Admissions | 0.0 |

| | |
|---|---|
| Mental Health Not Good | 0.0 |
| Chronic Kidney Disease | 0.0 |
| Obesity | 0.0 |
| Pedestrian Injuries | 88.4 |
| Physical Health Not Good | 0.0 |
| Stroke | 0.0 |
| Health Risk Behaviors | — |
| Binge Drinking | 0.0 |
| Current Smoker | 0.0 |
| No Leisure Time for Physical Activity | 0.0 |
| Climate Change Exposures | — |
| Wildfire Risk | 0.9 |
| SLR Inundation Area | 0.0 |
| Children | 56.6 |
| Elderly | 42.0 |
| English Speaking | 60.7 |
| Foreign-born | 38.6 |
| Outdoor Workers | 41.1 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 90.7 |
| Traffic Density | 62.4 |
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 63.7 |
| Other Decision Support | — |
| 2016 Voting | 39.7 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 72.0 |
| Healthy Places Index Score for Project Location (b) | 13.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| Project Located in a Low-Income Community (Assembly Bill 1550) | Yes |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

## 7.4. Health & Equity Measures

No Health & Equity Measures selected.

## 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

## 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

# 8. User Changes to Default Data

| Screen | Justification |
|---|---|
| Land Use | 14.27 net acre site with 49,000 sf total industrial use including 45,000 sf warehouse, 3,000 sf office, & two 500 sf enclosed saw sheds (46,454 sf or 1.07 ac footprint); 34 parking spaces with total parking/asphalt area covering 9.63 ac; 2.13 ac of gravel areas; & 62,456 sf or 1.44 ac landscaping. |
| Construction: Construction Phases | Construction to begin early July 2024 and be complete June 2024, taking 12 months. Site is vacant, no site prep or demolition needed. Site anticipated to balance. |
| Construction: Off-Road Equipment | CalEEMod default construction timing for building construction was reduced by ~28%; therefore, CalEEMod default construction equipment list has been increased by ~28%. |
| Operations: Vehicle Data | Per TIA, 191 total daily trips at 8.3 trips per acre (3.9 trips/thousand square foot). Percentages changed to 51.8% autos (H-W) & 48.2% trucks (W-O) for warehouse use. Per SCAQMD W-O trip length changed to 40 miles. |

| | |
|---|---|
| Operations: Fleet Mix | Revised vehicle mix from TIA of 51.8% Autos, 10% 2-Axle Trucks, 2.1% 3-Axle Trucks and 36.1% 4+ Axle Trucks. |
| Operations: Off-Road Equipment | Site is anticipated to utilize up to 6 forklifts on-site within the yard. The forklifts will be in operation during all shift hours (two shifts, 5 AM to 1:30 PM and 3:00 PM to 11:30 PM) or a total of 17 hours a day. To be conservative, assumed up to 8 forklifts at 17 hours a day. There will also be 1 crane operating within the building during shift hours. |

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

| Region | Calendar Year | Vehicle Category | Model Year | Speed | Fuel | Population | Trips | Energy Consumption | Fuel Consumption | Fuel Consumption | Total Fuel Consumption | Total VMT | Total VMT | Miles Per Gallon | Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Coast | 2024 | HHDT | Aggregate | Aggregate | Gasoline | 64.44258918 | 1289.367324 | 0 | 1.014953313 | 1014.953313 | 2024777.341 | 4089.563798 | 12241163.02 | **6.05** | **HHDT** |
| South Coast | 2024 | HHDT | Aggregate | Aggregate | Diesel | 92441.35478 | 1412165.896 | 0 | 1913.394963 | 1913394.963 | | 11547992.76 | | | |
| South Coast | 2024 | HHDT | Aggregate | Aggregate | Electricity | 291.6455699 | 3957.931048 | 53675.68637 | 0 | 0 | | 29968.60823 | | | |
| South Coast | 2024 | HHDT | Aggregate | Aggregate | Natural Gas | 10239.41118 | 65591.6649 | 0 | 110.3674239 | 110367.4239 | | 659112.0885 | | | |
| South Coast | 2024 | LDA | Aggregate | Aggregate | Gasoline | 5306414.643 | 24694249.92 | 0 | 7344.088111 | 7344088.111 | 7477826.02 | 213709568 | 234427100.1 | **31.35** | **LDA** |
| South Coast | 2024 | LDA | Aggregate | Aggregate | Diesel | 14576.24539 | 60769.87324 | 0 | 10.8801639 | 10880.1639 | | 447477.6987 | | | |
| South Coast | 2024 | LDA | Aggregate | Aggregate | Electricity | 278128.8376 | 1389682.584 | 5111363.117 | 0 | 0 | | 13239042.59 | | | |
| South Coast | 2024 | LDA | Aggregate | Aggregate | Plug-in Hybrid | 148523.7719 | 614145.7966 | 1077276.451 | 122.8577446 | 122857.7446 | | 7031011.891 | | | |
| South Coast | 2024 | LDT1 | Aggregate | Aggregate | Gasoline | 490973.66 | 2160511.155 | 0 | 732.0519082 | 732051.9082 | 732790.8073 | 17788975.08 | 17880208.77 | **24.40** | **LDT1** |
| South Coast | 2024 | LDT1 | Aggregate | Aggregate | Diesel | 178.9755587 | 511.7069897 | 0 | 0.143610092 | 143.6100917 | | 3350.970633 | | | |
| South Coast | 2024 | LDT1 | Aggregate | Aggregate | Electricity | 1222.38175 | 5792.038269 | 19502.00434 | 0 | 0 | | 50512.52673 | | | |
| South Coast | 2024 | LDT1 | Aggregate | Aggregate | Plug-in Hybrid | 719.1459798 | 2973.668627 | 6252.19918 | 0.595288961 | 595.288961 | | 37370.18633 | | | |
| South Coast | 2024 | LDT2 | Aggregate | Aggregate | Gasoline | 2478766.891 | 11657788.42 | 0 | 4349.789244 | 4349789.244 | 4378677.328 | 102696789.3 | 104694804 | **23.91** | **LDT2** |
| South Coast | 2024 | LDT2 | Aggregate | Aggregate | Diesel | 8144.015434 | 39238.54602 | 0 | 11.30594953 | 11305.94953 | | 354089.2658 | | | |
| South Coast | 2024 | LDT2 | Aggregate | Aggregate | Electricity | 16093.72479 | 82313.84321 | 227422.9885 | 0 | 0 | | 589052.7755 | | | |
| South Coast | 2024 | LDT2 | Aggregate | Aggregate | Plug-in Hybrid | 21096.29549 | 87233.18184 | 170348.4264 | 17.58213479 | 17582.13479 | | 1054872.659 | | | |
| South Coast | 2024 | LHDT1 | Aggregate | Aggregate | Gasoline | 200171.2476 | 2982253.334 | 0 | 578.7247685 | 578724.7685 | 792458.1109 | 7891021.12 | 12336952.39 | **15.57** | **LHDT1** |
| South Coast | 2024 | LHDT1 | Aggregate | Aggregate | Diesel | 103884.7559 | 1306739.542 | 0 | 213.7333424 | 213733.3424 | | 4387648.579 | | | |
| South Coast | 2024 | LHDT1 | Aggregate | Aggregate | Electricity | 772.5188678 | 10791.59936 | 32624.15974 | 0 | 0 | | 58282.68619 | | | |
| South Coast | 2024 | LHDT2 | Aggregate | Aggregate | Gasoline | 31062.46526 | 462784.4493 | 0 | 96.72139231 | 96721.39231 | 208303.4828 | 1155378.828 | 3095264.249 | **14.86** | **LHDT2** |
| South Coast | 2024 | LHDT2 | Aggregate | Aggregate | Diesel | 45926.82058 | 577701.627 | 0 | 111.5820905 | 111582.0905 | | 1925592.444 | | | |
| South Coast | 2024 | LHDT2 | Aggregate | Aggregate | Electricity | 199.9520404 | 2646.759351 | 8006.869611 | 0 | 0 | | 14292.97674 | | | |
| South Coast | 2024 | MCY | Aggregate | Aggregate | Gasoline | 242059.9929 | 484119.9858 | 0 | 37.44895514 | 37448.95514 | 37448.95514 | 1554780.429 | 1554780.429 | **41.52** | **MCY** |
| South Coast | 2024 | MDV | Aggregate | Aggregate | Gasoline | 1571312.1 | 7270009.961 | 0 | 3162.700535 | 3162700.535 | 3206338.183 | 60817091.34 | 62832018.9 | **19.60** | **MDV** |
| South Coast | 2024 | MDV | Aggregate | Aggregate | Diesel | 19826.89781 | 93051.64962 | 0 | 33.54860069 | 33548.60069 | | 786624.2122 | | | |
| South Coast | 2024 | MDV | Aggregate | Aggregate | Electricity | 17569.44798 | 89870.84023 | 248334.7848 | 0 | 0 | | 643216.8322 | | | |
| South Coast | 2024 | MDV | Aggregate | Aggregate | Plug-in Hybrid | 12690.57185 | 52475.51459 | 92596.30611 | 10.08904803 | 10089.04803 | | 585086.5214 | | | |
| South Coast | 2024 | MH | Aggregate | Aggregate | Gasoline | 29244.94397 | 2925.664195 | 0 | 57.51222476 | 57512.22476 | 68984.14797 | 279544.6577 | 395398.9997 | **5.73** | **MH** |
| South Coast | 2024 | MH | Aggregate | Aggregate | Diesel | 11703.55798 | 1170.355798 | 0 | 11.47192321 | 11471.92321 | | 115854.342 | | | |
| South Coast | 2024 | MHDT | Aggregate | Aggregate | Gasoline | 24845.17438 | 497102.249 | 0 | 256.9342026 | 256934.2026 | 812250.5213 | 1326417.556 | 6295601.951 | **7.75** | **MHDT** |
| South Coast | 2024 | MHDT | Aggregate | Aggregate | Diesel | 114693.757 | 1409921.86 | 0 | 546.7152883 | 546715.2883 | | 4878223.739 | | | |
| South Coast | 2024 | MHDT | Aggregate | Aggregate | Electricity | 355.3876422 | 4781.870526 | 20310.12518 | 0 | 0 | | 19393.49808 | | | |
| South Coast | 2024 | MHDT | Aggregate | Aggregate | Natural Gas | 1491.278079 | 13281.28453 | 0 | 8.601030453 | 8601.030453 | | 71567.15805 | | | |
| South Coast | 2024 | OBUS | Aggregate | Aggregate | Gasoline | 5296.379398 | 105969.959 | 0 | 41.44060197 | 41440.60197 | 78066.51924 | 209991.62 | 473651.4166 | **6.07** | **OBUS** |
| South Coast | 2024 | OBUS | Aggregate | Aggregate | Diesel | 2997.3176 | 37996.11149 | 0 | 33.30106375 | 33301.06375 | | 233646.4445 | | | |
| South Coast | 2024 | OBUS | Aggregate | Aggregate | Electricity | 11.86106715 | 237.3162316 | 941.3362619 | 0 | 0 | | 895.192351 | | | |
| South Coast | 2024 | OBUS | Aggregate | Aggregate | Natural Gas | 480.7769521 | 4278.914873 | 0 | 3.324853528 | 3324.853528 | | 29118.15975 | | | |
| South Coast | 2024 | SBUS | Aggregate | Aggregate | Gasoline | 2763.091965 | 11052.36786 | 0 | 13.6568139 | 13656.8139 | 40972.05843 | 121721.653 | 266076.6289 | **6.49** | **SBUS** |
| South Coast | 2024 | SBUS | Aggregate | Aggregate | Diesel | 3283.370627 | 47543.20668 | 0 | 9.104107226 | 9104.107226 | | 66807.29386 | | | |
| South Coast | 2024 | SBUS | Aggregate | Aggregate | Electricity | 21.89425828 | 248.8609268 | 740.8107178 | 0 | 0 | | 640.6727128 | | | |
| South Coast | 2024 | SBUS | Aggregate | Aggregate | Natural Gas | 3093.465789 | 44793.38463 | 0 | 18.21113731 | 18211.13731 | | 76907.00926 | | | |
| South Coast | 2024 | UBUS | Aggregate | Aggregate | Gasoline | 894.3284655 | 3577.313862 | 0 | 13.89822542 | 13898.22542 | 201736.9577 | 96953.45183 | 696232.1909 | **3.45** | **UBUS** |
| South Coast | 2024 | UBUS | Aggregate | Aggregate | Diesel | 14.32857314 | 57.31429256 | 0 | 0.259550733 | 259.5507326 | | 1721.679298 | | | |
| South Coast | 2024 | UBUS | Aggregate | Aggregate | Electricity | 109.3235246 | 437.2940985 | 19519.17282 | 0 | 0 | | 9364.629999 | | | |
| South Coast | 2024 | UBUS | Aggregate | Aggregate | Natural Gas | 4918.59249 | 19674.36996 | 0 | 187.5791815 | 187579.1815 | | 588192.4297 | | | |

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

| Region | Calendar Year | Vehicle Category | Model Year | Speed | Fuel | Population | Trips | Energy Consumption | Fuel Consumption | Fuel Consumption | Total Fuel Consumptior | Total VMT | Total VMT | Miles Per Gallon | Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Coast | 2025 | HHDT | Aggregate | Aggregate | Gasoline | 54.83401411 | 1097.118954 | 0 | 0.915660885 | 915.6608849 | 2033428.223 | 3783.739566 | 12499201.56 | **6.15** | **HHDT** |
| South Coast | 2025 | HHDT | Aggregate | Aggregate | Diesel | 95337.36817 | 1459640.636 | 0 | 1919.938673 | 1919938.673 | | 11745346.31 | | | |
| South Coast | 2025 | HHDT | Aggregate | Aggregate | Electricity | 647.565363 | 8586.113967 | 125035.0292 | 0 | 0 | | 69780.1703 | | | |
| South Coast | 2025 | HHDT | Aggregate | Aggregate | Natural Gas | 10701.05249 | 68656.35135 | 0 | 112.5738892 | 112573.8892 | | 680291.3416 | | | |
| South Coast | 2025 | LDA | Aggregate | Aggregate | Gasoline | 5244723.652 | 24385315.28 | 0 | 7108.358927 | 7108358.927 | 7245907.135 | 210339700.5 | 233546247.7 | **32.23** | **LDA** |
| South Coast | 2025 | LDA | Aggregate | Aggregate | Diesel | 13504.15254 | 56096.65324 | 0 | 9.832104986 | 9832.104986 | | 408222.3366 | | | |
| South Coast | 2025 | LDA | Aggregate | Aggregate | Electricity | 314906.6469 | 1568075.372 | 5911352.826 | 0 | 0 | | 15311111.74 | | | |
| South Coast | 2025 | LDA | Aggregate | Aggregate | Plug-in Hybrid | 159860.278 | 661022.2496 | 1174382.35 | 127.7161032 | 127716.1032 | | 7487213.196 | | | |
| South Coast | 2025 | LDT1 | Aggregate | Aggregate | Gasoline | 483367.514 | 2127610.282 | 0 | 708.9359688 | 708935.9688 | 709884.4736 | 17503198.77 | 17626287.18 | **24.83** | **LDT1** |
| South Coast | 2025 | LDT1 | Aggregate | Aggregate | Diesel | 161.5260868 | 453.3891137 | 0 | 0.127085477 | 127.0854768 | | 2967.035899 | | | |
| South Coast | 2025 | LDT1 | Aggregate | Aggregate | Electricity | 1505.26458 | 7236.189381 | 25889.93818 | 0 | 0 | | 67058.04036 | | | |
| South Coast | 2025 | LDT1 | Aggregate | Aggregate | Plug-in Hybrid | 1033.948372 | 4275.376518 | 9086.363765 | 0.821419376 | 821.4193759 | | 53063.32883 | | | |
| South Coast | 2025 | LDT2 | Aggregate | Aggregate | Gasoline | 2528171.942 | 11891190.15 | 0 | 4341.426391 | 4341426.391 | 4373117.135 | 104543301.5 | 106927231 | **24.45** | **LDT2** |
| South Coast | 2025 | LDT2 | Aggregate | Aggregate | Diesel | 8518.978579 | 40955.39339 | 0 | 11.53683826 | 11536.83826 | | 366939.3838 | | | |
| South Coast | 2025 | LDT2 | Aggregate | Aggregate | Electricity | 21565.05505 | 109850.7805 | 300027.449 | 0 | 0 | | 777107.023 | | | |
| South Coast | 2025 | LDT2 | Aggregate | Aggregate | Plug-in Hybrid | 25221.81395 | 104292.2007 | 204751.9727 | 20.15390552 | 20153.90552 | | 1239883.058 | | | |
| South Coast | 2025 | LHDT1 | Aggregate | Aggregate | Gasoline | 199655.4178 | 2974568.238 | 0 | 565.7929114 | 565792.9114 | 785253.6339 | 7899242.311 | 12579982.86 | **16.02** | **LHDT1** |
| South Coast | 2025 | LHDT1 | Aggregate | Aggregate | Diesel | 107539.0383 | 1352705.817 | 0 | 219.4607225 | 219460.7225 | | 4531936.528 | | | |
| South Coast | 2025 | LHDT1 | Aggregate | Aggregate | Electricity | 2131.529069 | 29802.51665 | 83294.25907 | 0 | 0 | | 148804.02 | | | |
| South Coast | 2025 | LHDT2 | Aggregate | Aggregate | Gasoline | 30849.1838 | 459606.8733 | 0 | 93.96299335 | 93962.99335 | 208962.5987 | 1145449.689 | 3183322.084 | **15.23** | **LHDT2** |
| South Coast | 2025 | LHDT2 | Aggregate | Aggregate | Diesel | 48016.98656 | 603993.2855 | 0 | 114.9996053 | 114999.6053 | | 2001431.485 | | | |
| South Coast | 2025 | LHDT2 | Aggregate | Aggregate | Electricity | 549.452873 | 7286.296511 | 20413.74678 | 0 | 0 | | 36440.90994 | | | |
| South Coast | 2025 | MCY | Aggregate | Aggregate | Gasoline | 246317.3152 | 492634.6304 | 0 | 37.82728892 | 37827.28892 | 37827.28892 | 1575969.655 | 1575969.655 | **41.66** | **MCY** |
| South Coast | 2025 | MDV | Aggregate | Aggregate | Gasoline | 1582911.671 | 7327873.919 | 0 | 3124.528435 | 3124528.435 | 3169334.086 | 61244218.19 | 63579746.09 | **20.06** | **MDV** |
| South Coast | 2025 | MDV | Aggregate | Aggregate | Diesel | 19966.30161 | 93386.67778 | 0 | 32.96063764 | 32960.63764 | | 783550.3632 | | | |
| South Coast | 2025 | MDV | Aggregate | Aggregate | Electricity | 23405.95686 | 119202.2123 | 325389.6809 | 0 | 0 | | 842798.2408 | | | |
| South Coast | 2025 | MDV | Aggregate | Aggregate | Plug-in Hybrid | 15515.87163 | 64158.1292 | 115605.1765 | 11.8450132 | 11845.0132 | | 709179.3041 | | | |
| South Coast | 2025 | MH | Aggregate | Aggregate | Gasoline | 28222.75742 | 2823.404652 | 0 | 55.89330175 | 55893.30175 | 67478.95091 | 271714.048 | 388622.5468 | **5.76** | **MH** |
| South Coast | 2025 | MH | Aggregate | Aggregate | Diesel | 11853.97154 | 1185.397154 | 0 | 11.58564916 | 11585.64916 | | 116908.4988 | | | |
| South Coast | 2025 | MHDT | Aggregate | Aggregate | Gasoline | 24266.37368 | 485521.6046 | 0 | 246.6220886 | 246622.0886 | 803911.5702 | 1285729.87 | 6330495.207 | **7.87** | **MHDT** |
| South Coast | 2025 | MHDT | Aggregate | Aggregate | Diesel | 117076.634 | 1440705.231 | 0 | 548.3413637 | 548341.3637 | | 4914316.485 | | | |
| South Coast | 2025 | MHDT | Aggregate | Aggregate | Electricity | 1030.710845 | 13697.48889 | 58527.95377 | 0 | 0 | | 55891.50984 | | | |
| South Coast | 2025 | MHDT | Aggregate | Aggregate | Natural Gas | 1586.964447 | 14102.34275 | 0 | 8.94811801 | 8948.11801 | | 74557.34189 | | | |
| South Coast | 2025 | OBUS | Aggregate | Aggregate | Gasoline | 5130.782804 | 102656.7023 | 0 | 38.98709136 | 38987.09136 | 75404.10956 | 199581.2481 | 465625.8692 | **6.18** | **OBUS** |
| South Coast | 2025 | OBUS | Aggregate | Aggregate | Diesel | 3078.572652 | 39272.27543 | 0 | 33.03961652 | 33039.61652 | | 233905.0145 | | | |
| South Coast | 2025 | OBUS | Aggregate | Aggregate | Electricity | 29.09533983 | 582.1395594 | 2258.641236 | 0 | 0 | | 2147.933443 | | | |
| South Coast | 2025 | OBUS | Aggregate | Aggregate | Natural Gas | 505.1478218 | 4495.815614 | 0 | 3.377401677 | 3377.401677 | | 29991.67319 | | | |
| South Coast | 2025 | SBUS | Aggregate | Aggregate | Gasoline | 2812.998756 | 11251.99503 | 0 | 13.81627409 | 13816.27409 | 41147.02398 | 123623.802 | 268314.9981 | **6.52** | **SBUS** |
| South Coast | 2025 | SBUS | Aggregate | Aggregate | Diesel | 3181.542446 | 46068.73461 | 0 | 8.734797087 | 8734.797087 | | 64276.54474 | | | |
| South Coast | 2025 | SBUS | Aggregate | Aggregate | Electricity | 47.38132065 | 537.5923668 | 1681.228052 | 0 | 0 | | 1453.97051 | | | |
| South Coast | 2025 | SBUS | Aggregate | Aggregate | Natural Gas | 3209.535885 | 46474.07961 | 0 | 18.59595281 | 18595.95281 | | 78960.68088 | | | |
| South Coast | 2025 | UBUS | Aggregate | Aggregate | Gasoline | 892.063682 | 3568.254728 | 0 | 13.80114714 | 13801.14714 | 198998.2045 | 96751.77026 | 697627.2588 | **3.51** | **UBUS** |
| South Coast | 2025 | UBUS | Aggregate | Aggregate | Diesel | 11.19759793 | 44.79039173 | 0 | 0.207460052 | 207.4600516 | | 1417.05095 | | | |
| South Coast | 2025 | UBUS | Aggregate | Aggregate | Electricity | 163.9010308 | 655.6041234 | 34521.6162 | 0 | 0 | | 16501.94536 | | | |
| South Coast | 2025 | UBUS | Aggregate | Aggregate | Natural Gas | 4881.393278 | 19525.57311 | 0 | 184.9895973 | 184989.5973 | | 582956.4922 | | | |



**GANDDINI GROUP INC.**

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# BROWN AND STRAUSS INDUSTRIAL PROJECT

**July 2023**

## General Biological Resources Assessment

Beaumont United States Geological Survey
7.5-MinuteTopographic Quadrangle Map

**Prepared By**

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## 1.0 INTRODUCTION AND EXECUTIVE SUMMARY

NOREAS Inc. (NOREAS) is pleased to provide this General Biological Resources Assessment for the Brown and Strauss Industrial Project (hereafter referred to as the "Project"). The Project Site is located within the City of Banning, California, north of West Lincoln Street, and west of South 8th Street (Assessor's Parcel Numbers [APNs] 540-180-020, 540-180-022 and540-180-026) (Figures 1 and 2). This document details the methods and results of baseline biological resources surveys and habitat assessments for the Project Site. The intended use of this document is to disclose and evaluate the Project Site's biological conditions and determine the potential for occurrence of common and special-status species[1] - and their habitats. For the purposes of this document, the "study area" includes the Project Site's proposed ground disturbance footprint and a buffer (Figure 2). Additionally, the Project Site is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), within the Pass Area Plan and the Badlands Habitat Management Unit. The Project Site is not within the boundaries of any MSHCP established Subunit, Cell Group, Criteria Cell, Public/Quasi-Public Land, Linkages/Cores, Conserved Lands, or Regional Conservation Authority (RCA) Easements. According to the RCA MSHCP Information Map, Project limits lie partially - or completely, within predetermined survey areas for the Burrowing Owl (*Athene cunicularia*), and narrow endemic sensitive plant species (Marvin's onion [*Allium marvinii*] and Many-stemmed dudleya [*Dudleya multicaulis*]). With that said, a detailed MSHCP Consistency Analysis Report will be provided under a separate cover.

During pedestrian surveys in 2022 and 2023, it was determined that greater than 99% of the Project Site was comprised of developed, disturbed and/or non-native land cover types. To that end, the Project Site is not collocated with any United States Fish and Wildlife Service (USFWS) designated critical habitat, nor were any special status species detected during field surveys. No nesting birds, remnant raptor nests, or bat guano were detected within the Project Site either.

The Project Site's developed and disturbed land cover has substantially decreased its value as suitable breeding / nesting and foraging habitat for native species. Furthermore, the Project Site has limited, if any, value as a low-quality migration corridor or overland dispersal habitat for wildlife, because it is severely movement constrained by the surrounding residential, industrial, and commercial developments, and public infrastructure.

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[1] For the purposes of this analysis, "special-status species" refers to any species that has been afforded special protection by federal, state, or local resource agencies (e.g., U.S. Fish and Wildlife Service [USFWS], California Department of Fish and Wildlife [CDFW]) or resource conservation organizations (e.g., California Native Plant Society [CNPS], Western Riverside County Regional Conservation Authority [RCA], etc.). The term "special-status species" excludes those avian species solely identified under Section 10 of the Migratory Bird Treaty Act (MBTA) for federal protection. Nonetheless, MBTA Section 10 protected species are afforded avoidance and minimization protections per state and federal requirements.

## 2.0 PROJECT AND PROPERTY DESCRIPTION

For the purposes of this document, the "study area" includes the Project's proposed ground disturbance footprint (Project Site) and a buffer (Figure 2). The Project Site can be found on the Beaumont United States Geological Survey (USGS) 7.5-MinuteTopographic Quadrangle Map (USGS 1984). The Project consists of the construction of a 42,510 square foot (SF) warehouse, a 3,434 SF office, two 500 SF enclosed saw sheds attached to the warehouse, and an outdoor storage yard.

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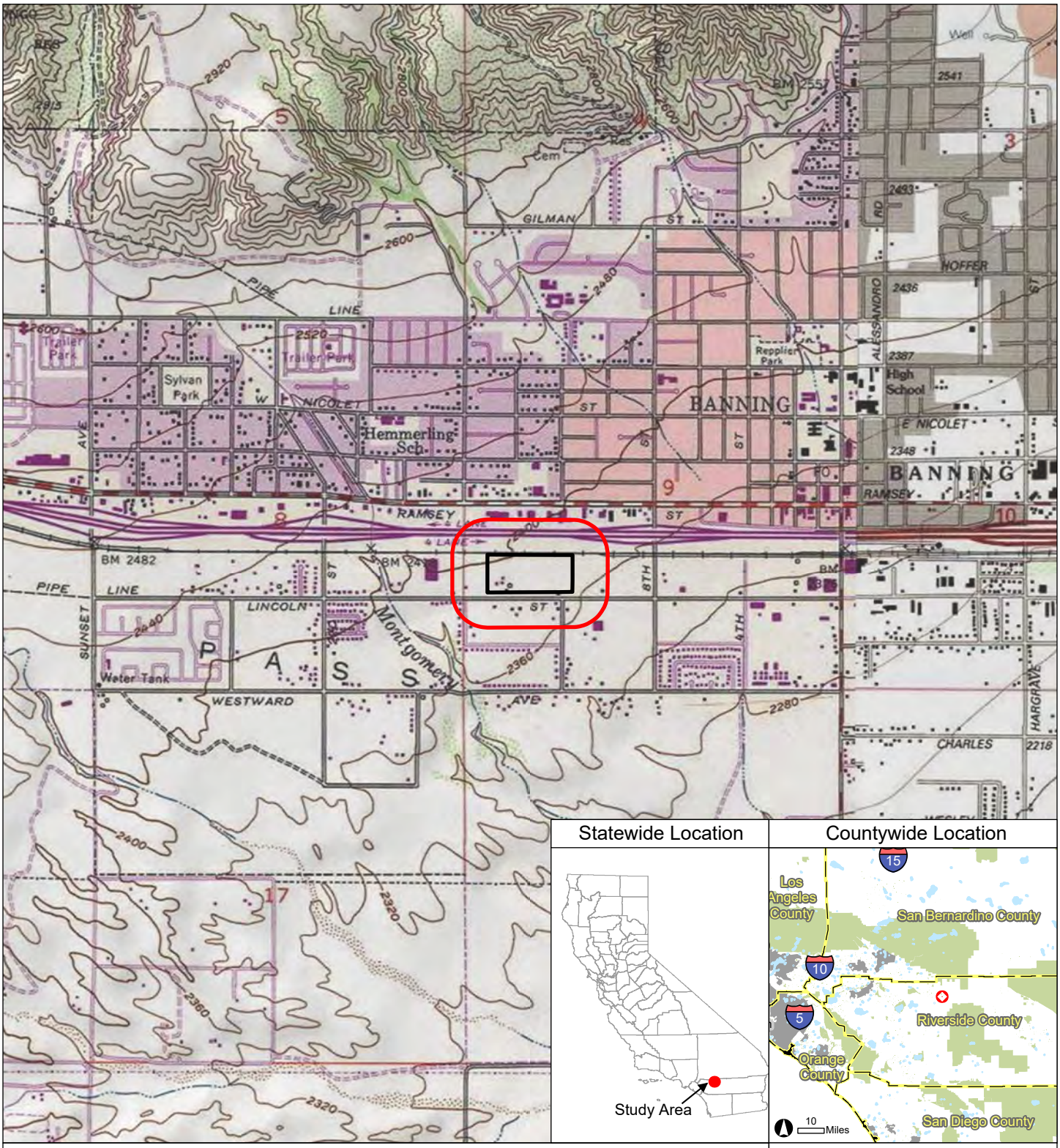


Figure 1. Regional Location




Project Site (14.77 acres)

Study Area (72.77 acres)

0 200 400 Feet

1 inch = 400 feet

Data Sources:
- ESRI World Imagery 6/9/2020

Map Prepared: 4-19-23

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 2. Site Vicinity

## 3.0 FOCUSED STUDY/SPECIES OF CONCERN

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans, databases and relevant documents were reviewed to determine the locations and types of biological resources[2] that have the potential to exist within - and adjacent to, the study area. Biological resources were evaluated within several miles of the Project Site.

The materials reviewed included - but were not limited to, the following:

- ✓ US Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2023a);
- ✓ USFWS Riverside County Field Office Species List (USFWS 2023b);
- ✓ USFWS National Wetlands Inventory database (USFWS 2023c);
- ✓ Regional South Coast Missing Linkages Project Report (South Coast Wildlands 2008);
- ✓ California Natural Diversity Database maintained by the California Department of Fish and Wildlife (CDFW) (CDFW 2023);
- ✓ Natural Resource Conservation Service, Soil Survey Geographic Database (SSURGO) (USDA-NRCS 2023a);
- ✓ California Native Plant Society (CNPS) Electronic Inventory (CNPS 2023);
- ✓ MSHCP Transportation and Land Management Agency Geographic Information Services Database (GISD 2023);
- ✓ Regional Conservation Authority GIS Data Mapping Tool (RCA 2032, https://www.wrc-rca.org/rcamaps/);
- ✓ Western Riverside County Multiple Species Habitat Conservation Plan (Dudek 2003); and
- ✓ Aerial Photographs (Microsoft Corporation 2023).

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[2] For the purposes of this analysis, "biological resources" refers to the plants, wildlife, and habitats that occur, or have the potential to occur, within the study area.

## 4.0 METHODS

To support the analysis detailed within Section 3.0 above, pedestrian-based field surveys were performed to assess land cover, general and dominant vegetation communities, habitat types, and species present within communities. Community descriptions were based on observed dominant vegetation composition, and derived from the criteria and definitions of widely accepted vegetation classification systems (Holland 1986 and Sawyer et al. 2009).

Plants were identified to the lowest taxonomic level sufficient to determine whether the species observed were non-native, native, or special-status. Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common species names were recorded according to Baldwin et al. (2012). The presence of a wildlife species was based on direct observation and/or detection of wildlife sign (e.g., tracks, burrows, nests, scat, skeletal remains or vocalization). Field data compiled for wildlife species included scientific name, and common name. Wildlife of uncertain identity were documented and subsequently identified from specialized field guides and related literature (Burt and Grossenheider 1980; Halfpenny 2000; Sibley 2000; Elbroch 2003 and Stebbins 2003).

Additionally, the Project Site was assessed for its potential to support special-status species based on habitat[3] suitability comparisons with reported occupied habitats (Appendix A). The following potential for occurrence definitions were utilized within Appendix A:

- **Absent [A]** – Species distribution is restricted by substantive habitat requirements which do not occur – or are negligible within the Project Site, and no further survey or study is necessary to determine likely presence or absence of this species.
- **Habitat Present [HP]** – Species distribution is restricted by substantive habitat requirements which occur within the Project Site, and further study may be necessary to determine likely presence or absence of species.
- **Present [P]** – Species or species sign were observed within the Project Site, or historically has been documented within Project limits.
- **Critical Habitat [CH]** – The Project Site is located within a USFWS-designated critical habitat unit.

### 4.1 Focused Surveys

As a result of literature reviews and general biological surveys, additional targeted census activities were performed for Burrowing Owl and MSHCP narrow endemic plant species (Marvin's onion [*Allium marvinii]* and Many-stemmed dudleya [*Dudleya multicaulis*]). Survey methods for Burrowing Owl were derived from generally accepted professional standards, including – but not limited to, the 1993 California Burrowing Owl Consortium Survey Protocol and Mitigation Guidelines (CBOC 1993), the 1995, 2012 California Department of Fish and Game Staff Reports on Burrowing Owl Mitigation (CDFG 1995 and 2012) and the *2006 Western Riverside County MSHCP Burrowing Owl Survey Instructions*. Detailed BUOW survey methods, results, and assumptions are presented within Appendix E. Please note that Burrowing Owls are of limited distribution - or occur infrequently throughout California, and their status is therefore monitored by resource agencies[4]. The Burrowing Owl is not a Federal and/or State listed species.

[3] A "habitat" is defined as the place or type of locale where a plant or animal naturally or normally lives and grows.

[4] This species could be important locally with deference to preparation of environmental documents relating to the California Environmental Quality Act (CEQA) - based on CEQA Guidelines §15125 (c), and/or §15380.

Field surveys for MSHCP narrow endemic plant species were also performed. Plant survey methods were derived from the standardized guidelines issued by the U.S. Fish and Wildlife Service (USFWS 2000), California Department of Fish and Wildlife (CDFW 2009) and the California Native Plant Society (CNPS 2001). As previously stated, the field surveys were specifically conducted to determine the presence/absence of MSHCP narrow endemic plant species, but the surveys were floristic[5] in nature. Surveys were conducted during the appropriate blooming period for the MSHCP narrow endemic plant species. Detailed MSHCP narrow endemic plant species survey methods, results, and assumptions are presented within Appendix F.

### 4.2 Evaluation of Wetlands and Waterways

Based on the aforementioned review of commercially available literature and habitat assessments, the presence and/or absence of surface water conveyance features, riparian plant communities, riverine land cover types and wetlands - including vernal pools, was evaluated within the Project Site. Potential features were identified based on professional judgement, aerial photographic signatures, and the presence of a well-defined ordinary high-water mark, bed, bank, channel, and/or the limits of riparian habitat in the field; with deference to vegetation, soils, and observed hydrology.

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[5] Focused on the distribution, number, types, and relationships of plant species in an area or areas.

## 5.0 GENERAL BIOLOGICAL SURVEY RESULTS

Weather conditions during the November 2022, March and April 2023 surveys included clear to cloudy skies, temperatures ranging from 60–77 °F, with winds fluctuating from 0 to 15 miles per hour (mph). Representative photos of the study area are provided in Appendix B.

### 5.1 Vegetation Communities and Land Cover Types

Two land cover types were observed within the study area: Disturbed/Developed and Ruderal (Figure 3). These types are described below.

**Developed/Disturbed**

Disturbed/Developed lands within the study area include locales that have been developed, paved, cleared, graded, or otherwise altered by anthropogenic activities (i.e., industrial warehouses, access roads, concrete pads, ornamental landscaping, industrial facilities, storage yards, commercial enterprises, etc.). Common non-native plants species detected within this type included ripgut brome (*Bromus diandrus*), Sahara mustard (*Brassica Tournefortii*) and Schismus (*Schismus barbatus*).

**Ruderal**

The ruderal vegetation community includes locales that have been subject to recent grading, clearing, or other physical human modification of soils and/or vegetation. These lands also include areas with exposed soils with minimal vegetation, and moderate cover by various non-native annual grasses, and weeds (adapted for growth on substrates subject to disturbance). Common non-native plants species detected within this type included Maltese star-thistle (*Centaurea melitensis*), stinknet (*Oncosiphon piluliferum*), and cheeseweed (*Malva neglecta*). The native fiddleneck (*Amsinckia Intermedia*) was also observed sporadically throughout this vegetation community.

### 5.2 Wildlife

Wildlife species observed within the study area consisted of commonly-occurring species - including, but not limited to, house finch (*Haemorhous mexicanus*), western meadowlark (*Sturnella neglecta*) common raven (*Corvus corax*), and western cottontail (*Sylvilagus audubonii*). Wildlife detected during the surveys are identified in Appendix D.

### 5.3 Special-Status Plants

No Federal or State listed plant species were observed within the study area during the 2022 and 2023 field surveys. However, several have been documented within 10 miles (Figure 4). The study area includes no USFWS-designated critical habitat for plants (Figure 5). To that end, the results of the MSHCP narrow endemic plant species surveys (Appendix F), imply that there are no special status plants present within the Project Site. Special-status species known to occur within 10 miles of the Project, and their potential for occurrence, are detailed within Appendix A. Plant species observed during the field surveys are listed in Appendix C.

### 5.4 Special-Status Wildlife

No special-status wildlife species were observed within the study area during the 2022 and 2023 field survey events. The study area includes no USFWS-designated critical habitat for wildlife (Figure 5). Special-status species known to occur within 10 miles of the Project Site and their potential for occurrence are detailed within Appendix A and Figure 4. No Burrowing Owl were observed within the Project Site. The Burrowing Owl is not a Federal and/or State listed species, but they are of limited distribution and/or occur infrequently throughout California. Wildlife species detected during the surveys are listed in Appendix D.

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## 5.5 Wetlands and Waterways

The literature review and field survey data suggest that it is appropriate to characterize the Project Site as an upland, since no riparian or riverine habitats - or obvious indicators of well-defined water conveyance bed, bank or channel were detected. The topography suggests that the Project Site lacks waters which are typically subject to the Clean Water Act, or Fish and Game Code Section 1600 jurisdiction. Furthermore, the National Wetland Inventory has no records of special aquatic resources within the Project Site (Figure 6).

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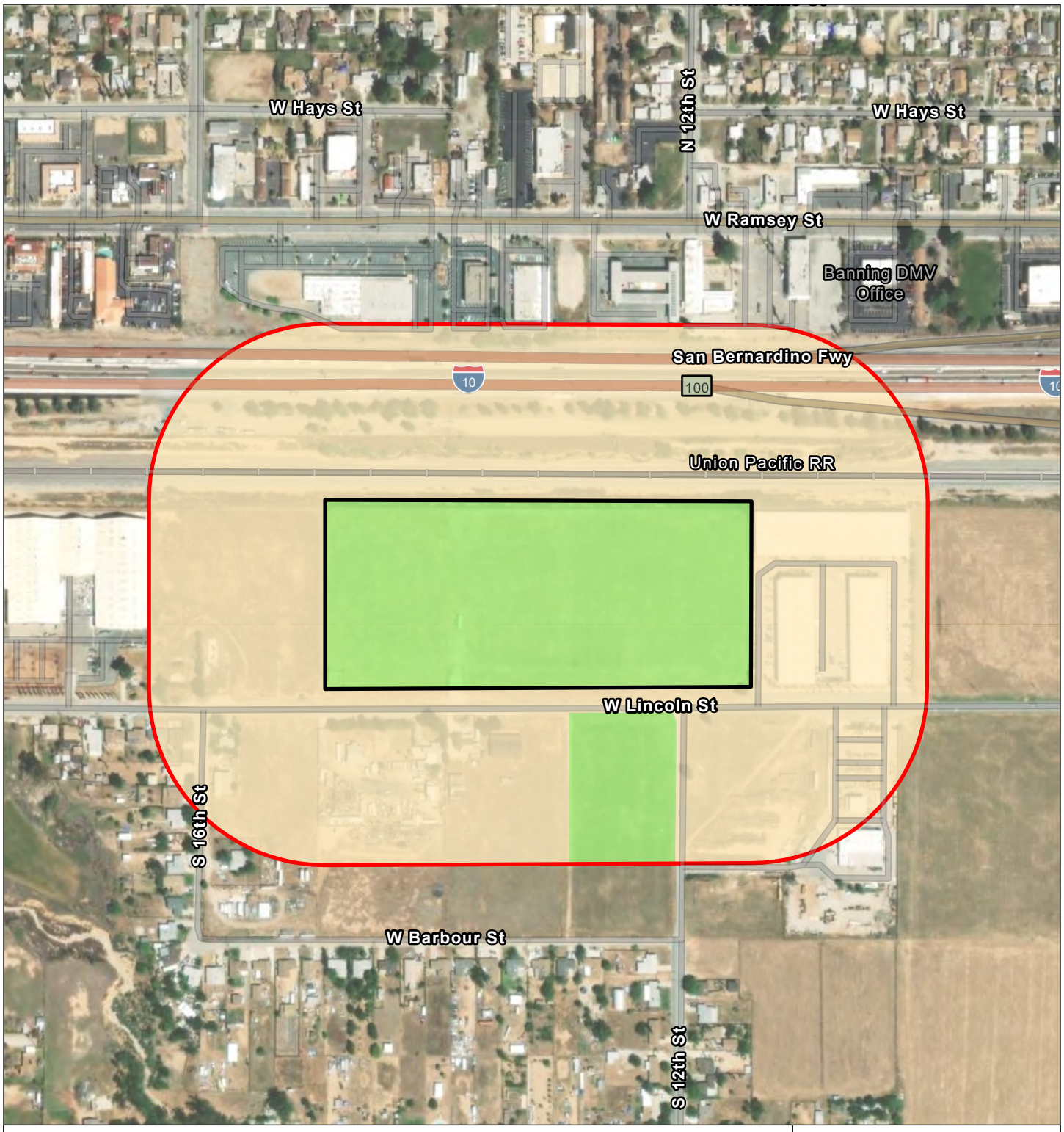


Figure 3. Vegetation Communities and Land Cover Types

## Special-Status Species Occurrences

| Map Code | Common Name *(Scientific Name)* | |
|---|---|---|
| | **Plants** | |
| P1 | California satintail | *Imperata brevifolia* |
| P2 | chaparral sand-verbena | *Abronia villosa var. aurita* |
| P3 | Coachella Valley milk-vetch | *Astragalus lentiginosus var. coachellae* |
| P4 | Coulter's goldfields | *Lasthenia glabrata ssp. coulteri* |
| P5 | Desert Fan Palm Oasis Woodland | *Desert Fan Palm Oasis Woodland* |
| P6 | Horn's milk-vetch | *Astragalus hornii var. hornii* |
| P7 | Jaeger's milk-vetch | *Astragalus pachypus var. jaegeri* |
| P8 | Laguna Mountains jewelflower | *Streptanthus bernardinus* |
| P9 | Latimer's woodland-gilia | *Saltugilia latimeri* |
| P10 | mesa horkelia | *Horkelia cuneata var. puberula* |
| P11 | Mojave tarplant | *Deinandra mohavensis* |
| P12 | mud nama | *Nama stenocarpa* |
| P13 | narrow-leaf sandpaper-plant | *Petalonyx linearis* |
| P14 | Palmer's mariposa-lily | *Calochortus palmeri var. palmeri* |
| P15 | Parish's alumroot | *Heuchera parishii* |
| P16 | Parry's spineflower | *Chorizanthe parryi var. parryi* |
| P17 | Payson's jewelflower | *Caulanthus simulans* |
| P18 | Plummer's mariposa-lily | *Calochortus plummerae* |
| P19 | salt spring checkerbloom | *Sidalcea neomexicana* |
| P20 | San Bernardino aster | *Symphyotrichum defoliatum* |
| P21 | San Bernardino gilia | *Gilia leptantha ssp. leptantha* |
| P22 | San Felipe monardella | *Monardella nana ssp. leptosiphon* |
| P23 | San Jacinto Valley crownscale | *Atriplex coronata var. notatior* |
| P24 | Santa Ana River woollystar | *Eriastrum densifolium ssp. sanctorum* |
| P25 | smooth tarplant | *Centromadia pungens ssp. laevis* |
| P26 | Southern Coast Live Oak Riparian Forest | *Southern Coast Live Oak Riparian Forest* |
| P27 | Southern Cottonwood Willow Riparian Forest | *Southern Cottonwood Willow Riparian Forest* |
| P28 | Southern Mixed Riparian Forest | *Southern Mixed Riparian Forest* |
| P29 | spiny-hair blazing star | *Mentzelia tricuspis* |
| P30 | white-bracted spineflower | *Chorizanthe xanti var. leucotheca* |
| P31 | white rabbit-tobacco | *Pseudognaphalium leucocephalum* |
| P32 | Yucaipa onion | *Allium marvinii* |
| | **Invertebrates** | |
| I1 | Coachella Valley jerusalem cricket | *Stenopelmatus cahuilaensis* |
| I2 | Crotch bumble bee | *Bombus crotchii* |
| I3 | Dohrn's elegant eucnemid beetle | *Palaeoxenus dohrni* |
| | **Mammals** | |
| M1 | American badger | *Taxidea taxus* |
| M2 | Dulzura pocket mouse | *Chaetodipus californicus femoralis* |
| M3 | Los Angeles pocket mouse | *Perognathus longimembris brevinasus* |
| M4 | northwestern San Diego pocket mouse | *Chaetodipus fallax fallax* |
| M5 | pallid bat | *Antrozous pallidus* |
| M6 | pallid San Diego pocket mouse | *Chaetodipus fallax pallidus* |
| M7 | Palm Springs pocket mouse | *Perognathus longimembris bangsi* |
| M8 | Palm Springs round-tailed ground squirrel | *Xerospermophilus tereticaudus chlorus* |
| M9 | San Bernardino kangaroo rat | *Dipodomys merriami parvus* |
| M10 | San Diego black-tailed jackrabbit | *Lepus californicus bennettii* |
| M11 | San Diego desert woodrat | *Neotoma lepida intermedia* |
| M12 | southern grasshopper mouse | *Onychomys torridus ramona* |
| M13 | Stephens' kangaroo rat | *Dipodomys stephensi* |
| M14 | Townsend's big-eared bat | *Corynorhinus townsendii* |
| M15 | western yellow bat | *Lasiurus xanthinus* |
| | **Birds** | |
| B1 | burrowing owl | *Athene cunicularia* |
| B2 | California horned lark | *Eremophila alpestris actia* |
| B3 | coastal cactus wren | *Campylorhynchus brunneicapillus sandiegensis* |
| B4 | coastal California gnatcatcher | *Polioptila californica californica* |
| B5 | Cooper's hawk | *Accipiter cooperii* |
| B6 | ferruginous hawk | *Buteo regalis* |
| B7 | golden eagle | *Aquila chrysaetos* |
| B8 | Le Conte's thrasher | *Toxostoma lecontei* |
| B9 | least Bell's vireo | *Vireo bellii pusillus* |
| B10 | loggerhead shrike | *Lanius ludovicianus* |
| B11 | prairie falcon | *Falco mexicanus* |
| B12 | purple martin | *Progne subis* |
| B13 | southern California rufous-crowned sparrow | *Aimophila ruficeps canescens* |
| B14 | southwestern willow flycatcher | *Empidonax traillii extimus* |
| B15 | tricolored blackbird | *Agelaius tricolor* |
| B16 | western yellow-billed cuckoo | *Coccyzus americanus occidentalis* |
| B17 | white-tailed kite | *Elanus leucurus* |
| B18 | yellow warbler | *Setophaga petechia* |
| | **Reptiles** | |
| R1 | California glossy snake | *Arizona elegans occidentalis* |
| R2 | Coachella Valley fringe-toed lizard | *Uma inornata* |
| R3 | coast horned lizard | *Phrynosoma blainvillii* |
| R4 | coastal whiptail | *Aspidoscelis tigris stejnegeri* |
| R5 | orange-throated whiptail | *Aspidoscelis hyperythra* |
| R6 | red-diamond rattlesnake | *Crotalus ruber* |
| R7 | Southern California legless lizard | *Anniella stebbinsi* |
| R8 | southern rubber boa | *Charina umbratica* |
| | **Amphibians** | |
| A1 | southern mountain yellow-legged frog | *Rana muscosa* |
| A2 | western spadefoot | *Spea hammondii* |

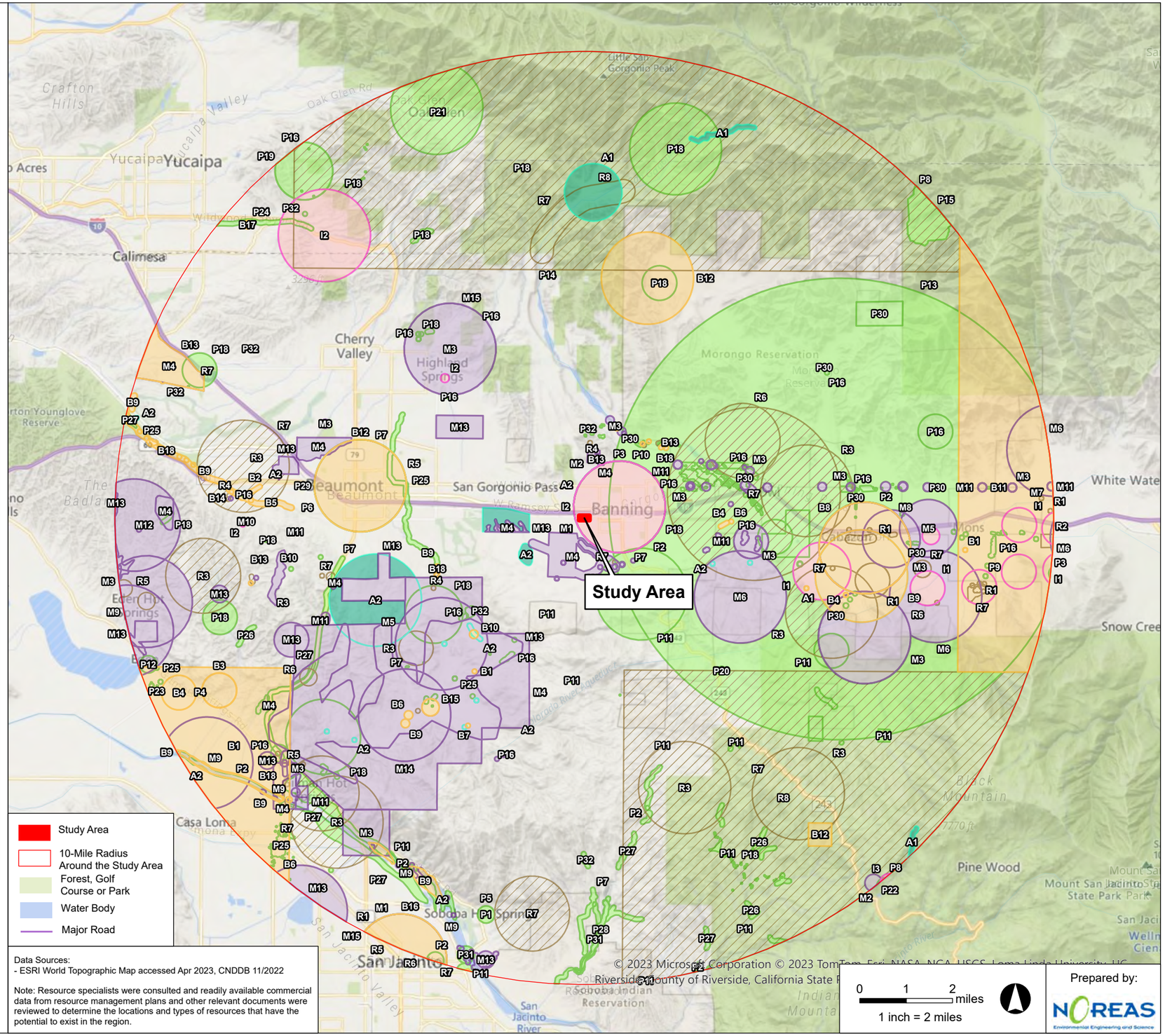


Figure 4. Literature Review

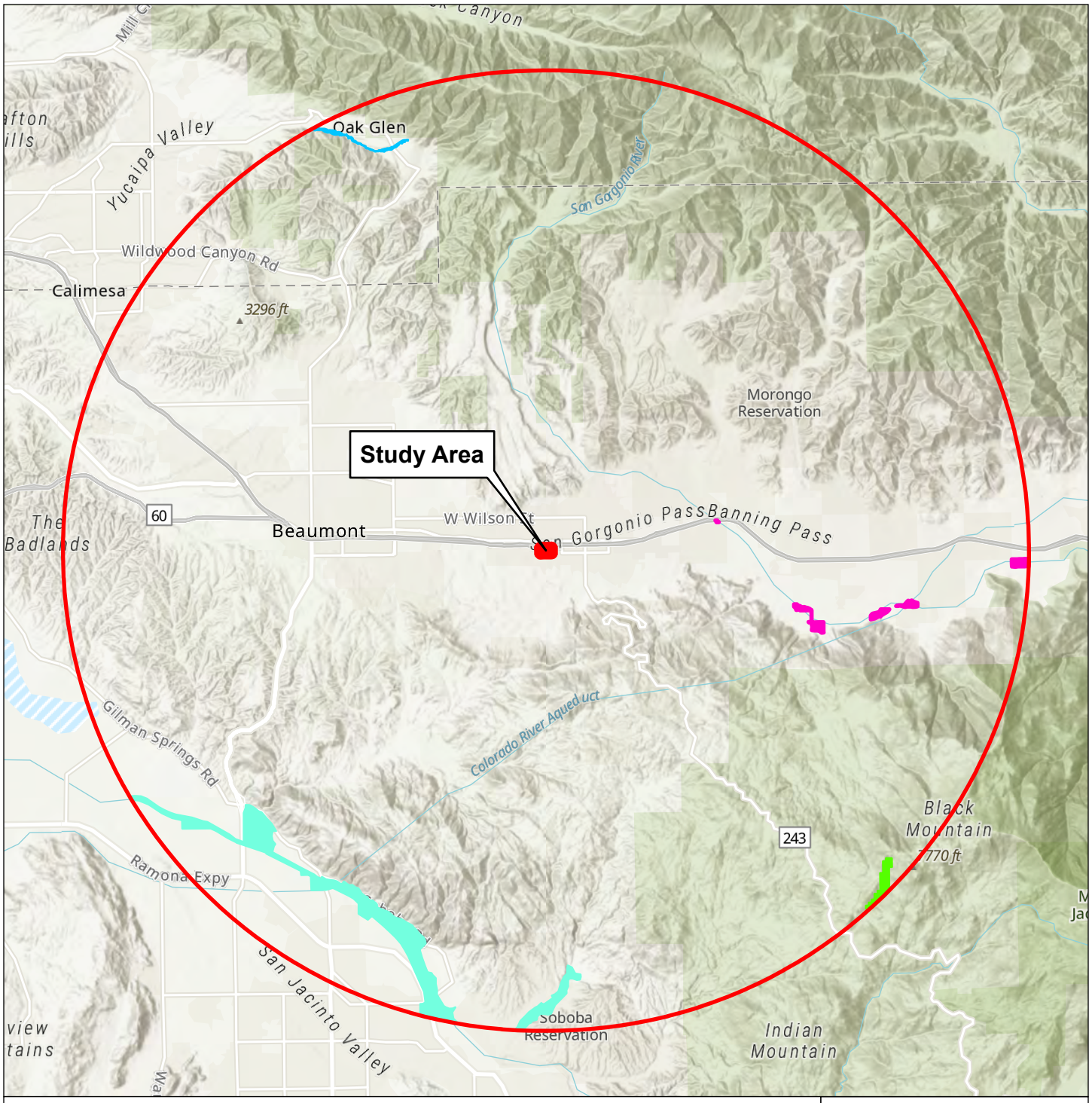


Figure 5. Critical Habitat

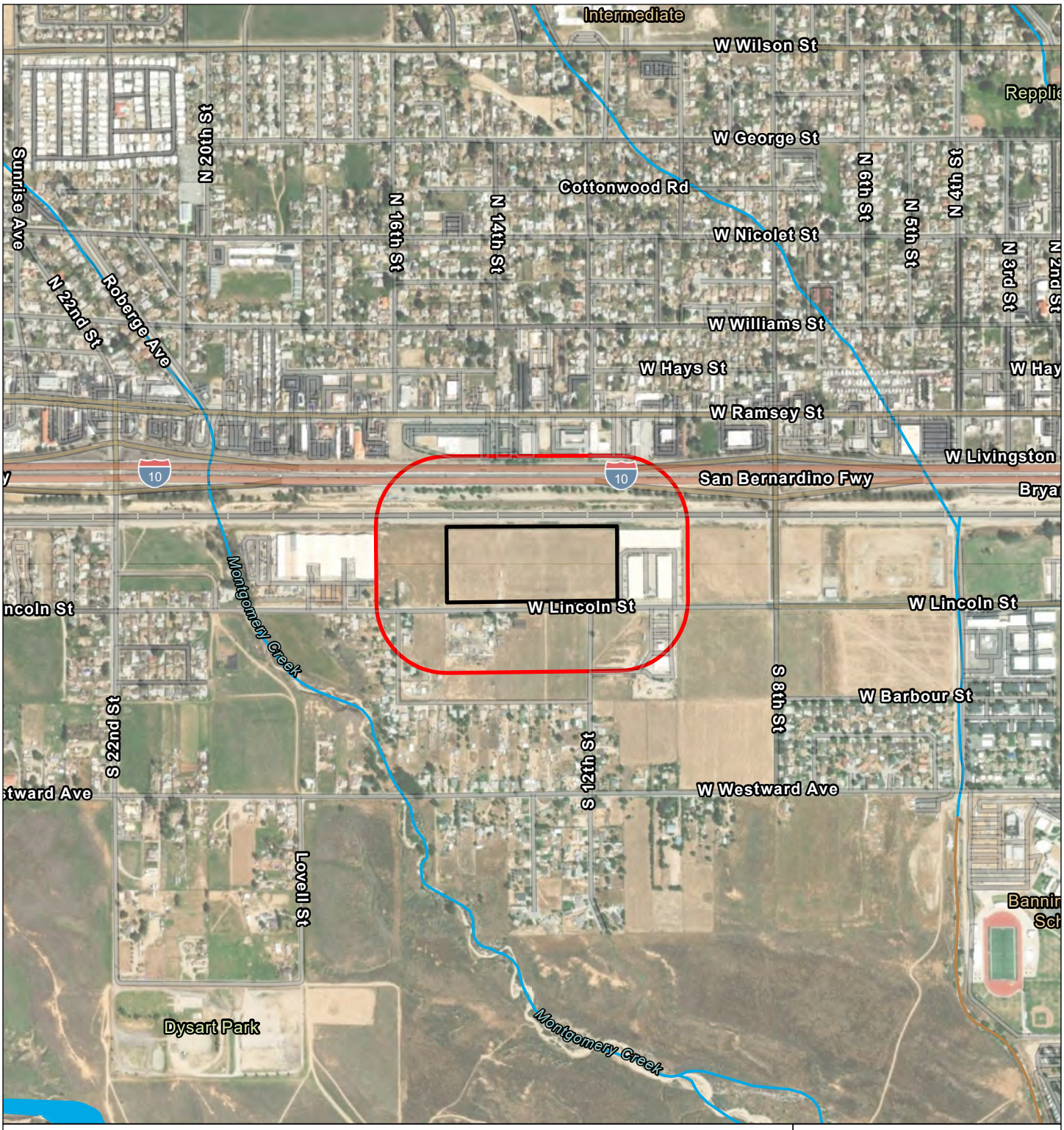


Figure 6. National Wetland Inventory

## 6.0 CONCLUSION AND RECOMMENDATIONS

In 2022 and 2023, it was determined that greater than 99% of the Project Site was comprised of developed, disturbed and/or non-native habitats. Additionally, the Project Site is not collocated with any USFWS designated critical habitat, nor were any special status species detected during the 2022 or 2023 field surveys. No nesting birds, remnant raptor nests, or bat guano were detected within the Project Site either. The Project Site's developed and disturbed land cover has substantially decreased its value as suitable breeding / nesting, and foraging habitat for native species as well. Furthermore, the Project Site has limited – if any, value as a low-quality migration corridor or overland dispersal habitat for wildlife. This is because the Project Site is severely movement constrained by the surrounding residential, industrial and commercial developments, and public infrastructure.

The following are recommended for implementation during the Project:

- Training of all field staff on applicable, relevant and appropriate local, state, and federal regulatory agency requirements, environmental laws, and regulations associated with working within and near special status species habitats, and biological resources.

- No personnel working within Project limits will "take" or destroy plants, animals, or active nests (or eggs) of birds that are protected under the Federal or State Endangered Species Acts, California Fish and Game Code, and Migratory Bird Treaty Act (MBTA).

- In order to comply with Section 10 of the Migratory Bird Treaty Act and relevant sections of the California Fish and Game Code and the MSHCP, any necessary vegetation clearing should take place outside of the typical avian nesting season (e.g., March 15$^{th}$ until September 1st).
    - If work needs to take place between March 15th and September 1st, a pre-activity clearance survey for nesting birds should be completed prior to the onset of ground disturbance.
    - An activity exclusion buffer zone around occupied nests should be maintained during physical ground disturbing undertakings. Once nesting has ended, the buffer may be removed.

- No more than 72 hours prior to initiation of ground-disturbing activities, a pre-construction clearance survey should be completed by a professional biologist. The survey will identify (if any) special-status species (e.g., Burrowing Owl) are present within locales proposed for disturbance within the Project Site. In the event no special status species are identified within the limits of disturbance, no further action is required.
    - If special status species are determined to occupy the Project Site - or within an area proposed for disturbance, no Project activity shall take place within a safe distance from the species, the location will be flagged for avoidance until the resource is no longer present, delineated on maps, photographed, and reported to the appropriate resource agency to determine how to proceed.

With the implementation of the measures recommended herein, there would be no presumption that the Project would result in the loss of individual species, nor that it would adversely affect local or regional populations of them.

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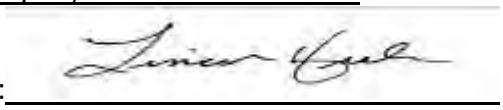
## 7.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached figures present the data and information required for this resource assessment, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this investigation was performed by me and under my direct supervision. I certify that I have not signed a nondisclosure or consultant confidentiality agreement with Brown Strauss, Inc. representatives, and that I have no financial interest in the Project. The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report.

DATE: July 07, 2023

SIGNED: 

Lincoln Hulse

The following NOREAS employees performed the field work and/or participated in preparation of this report: Lenny Malo MS, Lincoln Hulse BS, Vir McCoy BS, Jill Coumoutso BS, Coral Fenech BS and Jonathan Malo.

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# APPENDIX A
# SPECIAL-STATUS SPECIES POTENTIAL FOR OCCURRENCE WITHIN THE PROJECT SITE

| Potential for occurrence | Common name (Scientific name) | Federal listing status | State listing status | CNPS list | Number of records within 10 miles | Year(s) sighted |
|---|---|---|---|---|---|---|
| A | Chaparral sand-verbena *(Abronia villosa var. aurita)* | None | None | 1B.1 | 8 | 1944-2014 |
| A | Coachella Valley milk-vetch *(Astragalus lentiginosus var. coachellae)* | Endangered | None | 1B.2 | 2 | 1904-1987 |
| A | Jaeger's milk-vetch *(Astragalus pachypus var. jaegeri)* | None | None | 1B.1 | 6 | 1897-1990 |
| A | Mesa horkelia *(Horkelia cuneata var. puberula)* | None | None | 1B.1 | 1 | 1921 |
| A | Plummer's mariposa-lily *(Calochortus plummerae)* | None | None | 4.2 | 20 | 1982-2010 |
| A | Western spadefoot *(Spea hammondii)* | None | None | - | 19 | 1923-2017 |
| A | American badger *(Taxidea taxus)* | None | None | - | 2 | 1893-1908 |
| A | Los Angeles pocket mouse *(Perognathus longimembris brevinasus)* | None | None | - | 28 | 1908-2017 |
| A | Crotch bumble bee *(Bombus crotchii)* | None | None | - | 4 | 1952-2020 |
| A | Northwestern San Diego pocket mouse *(Chaetodipus fallax fallax)* | None | None | - | 15 | 1993-2016 |
| A | Narrow-leaf sandpaper-plant *(Petalonyx linearis)* | None | None | 2B.3 | 1 | 1879-1879 |
| A | Payson's jewelflower *(Caulanthus simulans)* | None | None | 4.2 | 1 | 1968-1968 |
| A | Southern California legless lizard *(Anniella stebbinsi)* | None | None | - | 13 | 1893-2018 |
| A | Stephens' kangaroo rat *(Dipodomys stephensi)* | Threatened | Threatened | - | 16 | 1963-2018 |
| A | Dulzura pocket mouse *(Chaetodipus californicus femoralis)* | None | None | - | 2 | 1993-1995 |
| A | Southern California rufous-crowned sparrow *(Aimophila ruficeps canescens)* | None | None | - | 7 | 2002-2017 |
| A | Coastal whiptail *(Aspidoscelis tigris stejnegeri)* | None | None | - | 4 | 2004-2016 |
| A | Yucaipa onion / Marvin's onion *(Allium marvinii)* | None | None | 1B.2 | 7 | 2005-2020 |
| A | White-bracted spineflower *(Chorizanthe xanti var. leucotheca)* | None | None | 1B.2 | 15 | 1994-2018 |
| A | Parry's spineflower *(Chorizanthe parryi var. parryi)* | None | None | 1B.1 | 23 | 1969-2018 |
| A | Mojave tarplant *(Deinandra mohavensis)* | None | Endangered | 1B.3 | 18 | 1994-2019 |
| A | San Diego desert woodrat *(Neotoma lepida intermedia)* | None | None | - | 12 | 1994-2017 |
| A | Yellow warbler *(Setophaga petechia)* | None | None | - | 4 | 2014-2016 |
| A | Pallid San Diego pocket mouse *(Chaetodipus fallax pallidus)* | None | None | - | 6 | 1938-2000 |
| A | Coastal California gnatcatcher *(Polioptila californica californica)* | Threatened | None | - | 5 | 1999-2016 |
| A | Red-diamond rattlesnake *(Crotalus ruber)* | None | None | - | 5 | 1964-XXXX |
| A | Pallid bat *(Antrozous pallidus)* | None | None | - | 2 | 1964-2011 |

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| Potential for occurrence | Common name (Scientific name) | Federal listing status | State listing status | CNPS list | Number of records within 10 miles | Year(s) sighted |
|---|---|---|---|---|---|---|
| A | Ferruginous hawk *(Buteo regalis)* | None | None | - | 3 | 1991-2016 |
| A | Smooth tarplant *(Centromadia pungens ssp. laevis)* | None | None | 1B.1 | 10 | 1999 |
| A | Least Bell's vireo *(Vireo bellii pusillus)* | Endangered | Endangered | - | 7 | 1908-2016 |
| A | Loggerhead shrike *(Lanius ludovicianus)* | None | None | - | 2 | 2003-2006 |
| A | Southern rubber boa *(Charina umbratica)* | None | Threatened | - | 16 | 1967-2020 |
| A | Western yellow bat *(Lasiurus xanthinus)* | None | None | - | 2 | 1988-1989 |
| A | Coast horned lizard *(Phrynosoma blainvillii)* | None | None | - | 14 | 1908-2006 |
| A | Horn's milk-vetch *(Astragalus hornii var. hornii)* | None | None | 1B.1 | 1 | 1889-1889 |
| A | Spiny-hair blazing star *(Mentzelia tricuspis)* | None | None | 2B.1 | 1 | 1886-1886 |
| A | Orange-throated whiptail *(Aspidoscelis hyperythra)* | None | None | - | 6 | 1912-1994 |
| A | Purple martin *(Progne subis)* | None | None | - | 3 | 1897-1984 |
| HP | Burrowing owl *(Athene cunicularia)* | None | None | - | 5 | 2005-2015 |
| A | San Bernardino aster *(Symphyotrichum defoliatum)* | None | None | 1B.2 | 1 | 1999 |
| A | Coachella Valley jerusalem cricket *(Stenopelmatus cahuilaensis)* | None | None | - | 4 | 2009 |
| A | Townsend's big-eared bat *(Corynorhinus townsendii)* | None | None | - | 1 | 1997 |
| A | Tricolored blackbird *(Agelaius tricolor)* | None | Threatened | - | 1 | 2015 |
| A | Palm Springs round-tailed ground squirrel *(Xerospermophilus tereticaudus chlorus)* | None | None | - | 1 | 1938 |
| A | Le Conte's thrasher *(Toxostoma lecontei)* | None | None | - | 1 | 1916 |
| A | Golden eagle *(Aquila chrysaetos)* | None | None | - | 1 | 2008 |
| A | Southern mountain yellow-legged frog *(Rana muscosa)* | Endangered | Endangered | - | 4 | 1908-2012 |
| A | Palmer's mariposa-lily *(Calochortus palmeri var. palmeri)* | None | None | 1B.2 | 1 | 2016 |
| A | Southern Cottonwood Willow Riparian Forest *(Southern Cottonwood Willow Riparian Forest)* | None | None | - | 10 | 1980-1991 |
| A | California glossy snake *(Arizona elegans occidentalis)* | None | None | - | 9 | 1893-2015 |
| A | Cooper's hawk *(Accipiter cooperii)* | None | None | - | 1 | 2004 |
| A | Southern Coast Live Oak Riparian Forest *(Southern Coast Live Oak Riparian Forest)* | None | None | - | 8 | 1980 |
| A | California horned lark *(Eremophila alpestris actia)* | None | None | - | 1 | 2003 |
| A | San Diego black-tailed jackrabbit *(Lepus californicus bennettii)* | None | None | - | 3 | 2003-2004 |
| A | Southwestern willow flycatcher *(Empidonax traillii extimus)* | Endangered | Endangered | - | 2 | 2004 |

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| Potential for occurrence | Common name (Scientific name) | Federal listing status | State listing status | CNPS list | Number of records within 10 miles | Year(s) sighted |
|---|---|---|---|---|---|---|
| A | Prairie falcon *(Falco mexicanus)* | None | None | - | 3 | 1977-1983 |
| A | Southern Mixed Riparian Forest *(Southern Mixed Riparian Forest)* | None | None | - | 1 | 1980 |
| A | White rabbit-tobacco *(Pseudognaphalium leucocephalum)* | None | None | 2B.2 | 2 | 2003-2004 |
| A | Coastal cactus wren *(Campylorhynchus brunneicapillus sandiegensis)* | None | None | - | 1 | 2001 |
| A | San Bernardino kangaroo rat *(Dipodomys merriami parvus)* | Endangered | Candidate Endangered | - | 8 | 1937-2015 |
| A | San Bernardino gilia *(Gilia leptantha ssp. leptantha)* | None | None | 1B.3 | 1 | 1931 |
| A | Santa Ana River woollystar *(Eriastrum densifolium ssp. sanctorum)* | Endangered | Endangered | 1B.1 | 1 | 1923 |
| A | California satintail *(Imperata brevifolia)* | None | None | 2B.1 | 1 | 1988 |
| A | Desert Fan Palm Oasis Woodland *(Desert Fan Palm Oasis Woodland)* | None | None | - | 1 | 1977 |
| A | Latimer's woodland-gilia *(Saltugilia latimeri)* | None | None | 1B.2 | 1 | 2015 |
| A | Southern grasshopper mouse *(Onychomys torridus ramona)* | None | None | - | 1 | 1938 |
| A | Salt spring checkerbloom *(Sidalcea neomexicana)* | None | None | 2B.2 | 1 | 1891 |
| A | Coulter's goldfields *(Lasthenia glabrata ssp. coulteri)* | None | None | 1B.1 | 2 | 2008-2010 |
| A | Laguna Mountains jewelflower *(Streptanthus bernardinus)* | None | None | 4.3 | 2 | 1982 |
| A | Parish's alumroot *(Heuchera parishii)* | None | None | 1B.3 | 1 | 1988 |
| A | Western yellow-billed cuckoo *(Coccyzus americanus occidentalis)* | Threatened | Endangered | - | 1 | 1893 |
| A | White-tailed kite *(Elanus leucurus)* | None | None | - | 1 | 2006 |
| A | Mud nama *(Nama stenocarpa)* | None | None | 2B.2 | 1 | 2010 |
| A | Coachella Valley fringe-toed lizard *(Uma inornata)* | Threatened | Endangered | - | 1 | 1975 |
| A | San Jacinto Valley crownscale *(Atriplex coronata var. notatior)* | Endangered | None | 1B.1 | 1 | 2004 |
| A | Palm Springs pocket mouse *(Perognathus longimembris bangsi)* | None | None | - | 1 | 2017 |
| A | Dohrn's elegant eucnemid beetle *(Palaeoxenus dohrni)* | None | None | - | 1 | 2017 |
| A | San Felipe monardella *(Monardella nana ssp. leptosiphon)* | None | None | 1B.2 | 1 | 1969 |

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CNPS List Definitions
List 1A: Plants presumed extinct in California
List 1B.1: Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California
List 1B.2: Plants rare, threatened, or endangered in California and elsewhere, fairly threatened in California
List 1B.3: Plants rare, threatened, or endangered in California and elsewhere, not very threatened in California
List 2.1: Plants rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California
List 2.2: Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California

Potential for Occurrence Definitions
Absent [A] – Species distribution is restricted by substantive habitat requirements, which do not occur – or are negligible within the Project Site, and no further survey or study is obligatory to determine likely presence or absence of this species.
Habitat Present [HP] – Species distribution is restricted by substantive habitat requirements, which occur within the Project Site, and further survey or study may be necessary to determine likely presence or absence of species.
Present [P] – Species or species sign were observed within the Project Site, or historically has been documented within Project limits
Critical Habitat [CH] – The Project Site is located within a USFWS-designated critical habitat unit.

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# APPENDIX B
# PHOTOGRAPH LOG

| | |
|---|---|
|  | **Photograph 1.** Facing Southwest. |
|  | **Photograph 2.** Facing East. |

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| | |
|---|---|
|  | **Photograph 3.** Facing North. |
|  | **Photograph 4.** Facing West. |

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# APPENDIX C
# PLANT SPECIES OBSERVED WITHIN THE STUDY AREA

| Scientific Name | Common Name |
|---|---|
| **Asteraceae (Aster family)** | |
| *Ambrosia dumosa* | Western ragweed |
| *Baccharis neglecta* | Roosevelt weed |
| *Baccharis sarothroides* | Desert broom |
| *Gnaphalium spp.** | Cudweed |
| *Lactuca serriola ** | Prickly lettuce |
| *Lasthenia gracilis** | Needle goldfields |
| *Matricaria discoidea** | Pineapple weed |
| *Oncosiphon piluliferum** | Stinknet |
| *Symphyotrichum chilense* | California aster |
| ***Anacardiaceae* (Cashew family)** | |
| *Schinus molle** | Peruvian pepper |
| **Arecaceae (Palm family)** | |
| *Syagrus romanzoffiana* | Queen palm |
| *Washingtonia Robusta** | Mexican fan palm |
| **Boraginaceae (Forget-me-not family)** | |
| *Amsinckia menziesii* | Fiddleneck |
| **Brassicaceae (Mustard family)** | |
| *Brassica nigra** | Black mustard |
| *Brassica Tournefortii** | Sahara mustard |
| *Pectocarya heterocarpa* | Chuckwalla combseed |
| *Plagiobothrys nothofulvus* | Rusty popocornflower |
| *Sisymbrium irio ** | London rocket |
| **Cupressaceae (Cypress family)** | |
| *Juniperus horizontalis** | Creeping juniper |
| **Euphorbiaceae (Spurge family)** | |
| *Croton setigerus** | Dove weed |
| **Geraniaceae (Geranium family)** | |
| *Erodium cicutarium** | Redstem stork's bill |
| **Fabaceae (Pea family)** | |
| *Lupinus bicolor* | Miniature lupine |
| *Medicago polymorpha ** | Burr medic |
| *Parkinsonia florida* | Blue palo verde |
| **Malvaceae (Mallow family)** | |
| *Malva parviflora** | Cheeseweed |
| **Pinaceae (Pine family)** | |
| *Pinus sp.** | Pine |
| **Polemoniaceae (Phlox family)** | |

| *Scientific Name* | *Common Name* |
|---|---|
| *Gilia spp.* | Gilia species |
| ***Poaceae (Grass family)*** | |
| *Avena fatua* * | Wild oat |
| *Bromus diandrus* * | Ripgut brome |
| *Bromus madritensis subsp. Rubens* * | Red brome |
| *Festuca arundinacea* * | Tall fescue |
| *Festuca myuros* * | Annual fescue |
| *Hordeum murinum* * | Wall barley |
| *Poa bulbosa* * | Bulbous bluegrass |

Nomenclature follows the Jepson Manual, Second Edition (Baldwin et al 2011).

* = naturalized, non- native plant species.

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# APPENDIX D
# WILDLIFE SPECIES OBSERVED WITHIN THE STUDY AREA

| Scientific name | Common name |
|---|---|
| **Birds** | |
| *Agelaius phoeniceus* | Red-winged blackbird |
| *Accipiter cooperii* | Cooper's hawk |
| *Buteo jamaicensis* | Red-Tailed hawk |
| *Cathartes aura* | Turkey vulture |
| *Corvus corax* | Common Raven |
| *Calypte anna* | Anna's hummingbird |
| *Corvus brachyrhynchos* | American crow |
| *Sturnus vulgaris* | European Starling |
| *Carpodacus mexicanus* | House Finch |
| *Charadrius vociferus* | Killdeer |
| *Hirundo rustica* | Barn swallow |
| *Sturnella neglecta* | Western Meadowlark |
| *Passerculus sandwichensis* | Savanna sparrow |
| *Petrochelidon pyrrhonota* | Cliff swallow |
| *Columba livia* | Rock Pigeon |
| *Euphagus cyanocephalus* | Brewer's Blackbird |
| *Zonotrichia leucophrys* | White-crowned sparrow |
| *Falco sparverius* | American kestrel |
| *Mimus polyglottos* | Northern mockingbird |
| *Sayornis saya* | Say's phoebe |
| *Melospiza melodia* | Song sparrow |
| *Passer domesticus* | House Sparrow |
| *Sayornis nigricans* | Black phoebe |
| *Spinus psaltria* | Lesser goldfinch |
| *Sturnella neglecta* | Western meadowlark |
| *Tyrannus vociferans* | Cassin's kingbird |
| *Quiscalus quiscula* | Common Grackle |
| *Zenaida macroura* | Mourning Dove |
| **Mammals** | |
| *Otospermophilus beecheyi* | California ground squirrel |
| *Sylvilagus audubonii* | Desert cottontail |

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# APPENDIX E
# BURROWING OWL SURVEY REPORT

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# BROWN AND STRAUSS INDUSTRIAL PROJECT

**July 2023**

## BURROWING OWL SURVEY

Beaumont United States Geological Survey
7.5-MinuteTopographic Quadrangle Map

**Prepared By**

NOREAS
Environmental Engineering and Science

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## 1.0 SUMMARY / INTRODUCTION

Brown Strauss, Inc. (Brown and Strauss) is proposing to develop the Brown and Strauss Industrial Project (hereafter referred to as the Project). The Project Site is located within the City of Banning, Riverside County, California (Figures 1 and 2), north of West Lincoln Street and west of South 8th Street (Assessor's Parcel Numbers [APNs] 540-180-020, 540-180-022 and540-180-026). This report provides the methods, assumptions, and results of focused surveys for Burrowing Owl (*Athene cunicularia*). The Project Site can be found on the Beaumont United States Geological Survey (USGS) 7.5-MinuteTopographic Quadrangle Map (USGS 1984).

The Project occurs at an approximate elevation of 2,400 ft. above mean sea level (msl). Land use in the vicinity of the Project includes commercial, agriculture, residential and industrial endeavors. For the purposes of this report, the "study area" includes the Project's proposed ground disturbance footprint (Project Site), plus a 500-foot buffer where practical (Figures 1 and 2). The Project Site is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), Pass Area Plan. According to the Regional Conservation Authority (RCA) MSHCP Information Map, Project limits are within a Burrowing Owl study area. Agricultural and other commercial development activities were historically operated within Project limits. There is also evidence of recent disking throughout the Project Site.

No Burrowing Owls were detected nesting, foraging, or dispersing within the study area during the 2022 and 2023 surveys. Numerous – albeit low quality potential burrows, and burrow complexes were detected (Figure 3). The burrows observed lacked evidence of owl sign (i.e., tracks, molted feathers, cast pellets, prey remains, egg shell fragments, owl white wash, and nest burrow decoration materials). With that said, the lack of Burrowing Owls within the study area is likely a result of the depauperate landscape, and the presence of owl predators. Although the Project has potential to impact lands that could be utilized by Burrowing Owls as habitat, surveys for the species are negative. Therefore, there is no presumption that the Project would result in the loss of individual Burrowing Owls, or that it would adversely affect local - or regional populations, of them.

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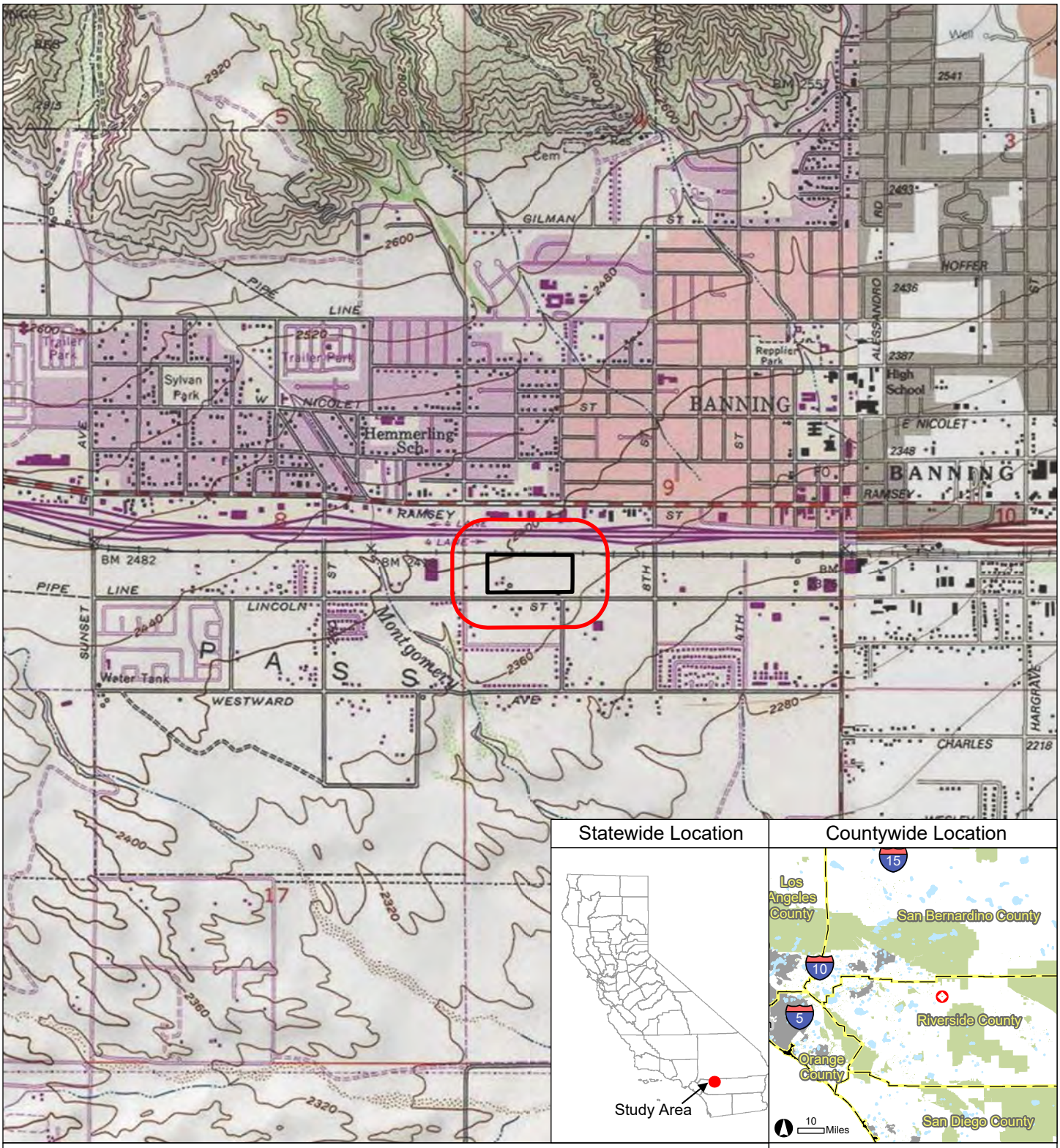


Figure 1. Regional Location




Project Site (14.77 acres)

Study Area (72.77 acres)

0 200 400 Feet

1 inch = 400 feet

Data Sources:
- ESRI World Imagery 6/9/2020

Map Prepared: 4-19-23

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 2. Site Vicinity

## 2.0 BURROWING OWL BACKGROUND

The Burrowing Owl has been designated by the California Department of Fish and Wildlife (CDFW) as a species of special concern. "State Species of Special Concern" status applies to animals not listed for protection under the federal Endangered Species Act or the California Endangered Species Act. The designation denotes that a species is declining at a rate that could result in State listing or that a species has historically occurred in low numbers and known threats to their persistence currently exist. The designation is intended to result in "special consideration" for these animals during the environmental review and discretionary permitting processes. In addition, the designation is also intended to focus research and management attention on poorly-known, potentially at-risk species by stimulating the collection of additional information on their biology, distribution, and status.

Burrowing Owls prefer open, dry annual or perennial grasslands, agricultural and rangelands, deserts, and scrublands characterized by low-growing vegetation. Burrowing Owls also prefer areas inhabited by small mammals as they predominately depend on mammal burrows (particularly ground squirrels) for subterranean nesting. Owls can be found at elevations ranging from 200 ft. below sea level to 9,000 ft. above (CDFG 1995). Burrowing Owls commonly perch on fence posts or on mounds outside their burrows. Northern populations of Burrowing Owls are usually migratory, while more southern populations may move short distances or not at all (Haug et al. 1993, Botelho 1996). Little is known about the winter ranges of migratory populations, although migratory Burrowing Owls are believed to mix with resident populations in California during the winter months (Coulombe 1971, Haug et al. 1993).

Burrowing Owls tend to be resident where food sources are stable and available year-round (Rosenberg et al. 1998). Typically, they disperse or migrate south in areas when food becomes seasonally scarce. Burrowing Owls tend to be opportunistic feeders. Large arthropods, mainly beetles and grasshoppers, comprise a substantial portion of their diet (Rosenberg et al. 1998). Small mammals, especially mice, rats, gophers, and ground squirrels, are also important food items. Other prey animals include reptiles and amphibians, scorpions, young cottontail rabbits, bats, and birds such as sparrows and Horned Larks. Consumption of insects increases during the breeding season. Burrowing Owls hover while hunting; after catching their prey they return to perches on fence posts or the ground. Burrowing Owls are primarily active at dusk and dawn, but, if necessary, will hunt at any time of day (CBOC 1993, CDFG 1995; Rosenberg et al. 1998).

The breeding season for Burrowing Owls is March to late August; the season tends to last later in the northern part of the range (CBOC 1993, CDFG 1995, Klute et al. 2003). Clutch size (number of birds hatched at the same time) ranges from 1 to 12 and averages about 7 (Ehrlich 1988). The incubation period is 28–30 days (Ehrlich 1988). The female performs all the incubation and brooding (sitting on eggs to hatch them by the warmth of the body) and is believed to remain continually in the burrow while the male does all the hunting (Rosenberg et al. 1998). The young fledge (take their first flight out of the nest) at 44 days but remain near the burrow and join the adults in foraging flights at dusk (Ehrlich 1988). The maximum life span recorded for a banded bird in the wild is approximately 8.5 years (Rosenberg et al. 1998).

In resident populations, nest site fidelity is common, with many adults nesting each year in their previous year's burrow; young from the previous year often establish nest sites near (<900 ft) their natal sites (Trulio 1997,Rosenberg et al. 1998). Burrowing Owls in migratory populations also often nest in the same burrow, particularly if the previous year's breeding was successful (Belthoff and King 1997). Other birds in the same population may move to burrows near their previous year's burrow. The species is

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threatened primarily by loss, degradation, and fragmentation of habitat, although they do readily inhabit anthropogenic landscapes such as agricultural fields, golf courses, and airport grasslands (Korfanta et al. 2005).

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## 3.0 METHODS

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans and relevant documents were reviewed to determine the locations and types of resources that have the potential to exist within and adjacent to the study area. Resources were evaluated within several miles of the Project. The materials reviewed included, but were not limited to, the following:

- U.S. Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2023a);
- USFWS Carlsbad Field Office Species List for Riverside County (USFWS 2023b);
- California Natural Diversity Database maintained by the CDFW (CDFW 2023);
- 1993 California Burrowing Owl Consortium (CBOC)Burrowing Owl Survey Protocol and Mitigation Guidelines;
- 2021 California Department of Fish and Game (CDFG) Staff Report on Burrowing Owl Mitigation;
- Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP 2003); and
- Aerial Photographs (Microsoft Corporation 2023).

A Burrowing Owl habitat suitability assessment and burrow survey was conducted on November 30, 2022 in accordance with the *March 29, 2006 Western Riverside County MSHCP Burrowing Owl Survey Instructions*. Natural and non-natural substrates were examined for potential burrow sites and complexes. Potential burrows encountered were examined for shape, size, molted feathers, whitewash, cast pellets and/or prey remains. Disturbance characteristics and other animal sign encountered within the study area were documented, to the greatest extent practical.

Since suitable habitat was observed for Burrowing Owls within the study area, four (4) additional surveys were performed (details are presented within *TABLE NO. 1 - SUMMARY OF SURVEY CONDITIONS FOR SURVEYS*). A hand-held, global positioning system (GPS) unit with sub meter accuracy was used to survey predetermined transects that were prepared within a Geographic Information System prior to the start of owl surveys (Figure 3). Survey transects were spaced at appropriate intervals to allow for complete visual coverage of the Project Site, and study area. Where necessary, transect spacing was reduced or expanded in the field - to account for differences in terrain, vegetation density, visibility, health and safety, and access (i.e., private property) considerations. Where access was limited, observations were made from the nearest appropriate vantage points by means of public rights-of-way with the use of binoculars and spotting scopes. The presence of a species was based on direct observations of individual(s), sign, and/or vocalization. Avian scientific nomenclature and common names follows Sibley (2000).

Field surveys were conducted when weather conditions were conducive to observing birds. Surveys were not performed during rain, extreme temperatures, high winds (> 25 miles per hour), or dense fog. Targeted owl surveys were conducted on 12 and 27 March, 05 and 25 April 2023. Surveys were performed from approximately 1 hour before sunrise to 2 hours after sunrise, and from approximately 2 hours before sunset to 1 hours after sunset - when weather conditions were conducive to observing owls outside of burrows.

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## 4.0 BURROWING OWL SURVEY RESULTS

The majority of the study area consists of heavily disturbed ruderal vegetation, with no substantial native stands of vegetation. Agricultural, commercial development, and residential activities were historically operated within Project limits. There is also evidence of recent disking, trash from illegal dumping throughout the Project Site, and an active railroad paralleling the Project's northern border.

No Burrowing Owls were observed nesting, foraging, or dispersing within the study area during the 2022 and 2023 surveys. Nonetheless, potential burrows and burrow complexes – albeit low quality, were detected (Figure 3). The burrows observed lacked evidence of owl tracks, molted feathers, cast pellets, prey remains, egg shell fragments, owl white wash, or nest burrow decoration materials. The presence of several burrows and burrow complexes >11 centimeters (cm) in diameter (height and width), and >150 cm in depth warranted recording and reporting; even though the aforementioned burrows lacked owl sign, or owls. Survey conditions during the field events are presented in Table No. 1.

**TABLE NO. 1 - SUMMARY OF SURVEY CONDITIONS FOR SURVEYS**

| Survey Dates | Surveyors | Survey Type | Time[1] Start/End | Temperature °Fahrenheit Start/End | Wind Speed (MPH) | Start/End Cloud Cover (%) | Date of last precipitation prior to survey |
|---|---|---|---|---|---|---|---|
| **11/30/22** | Lincoln Hulse | Burrow Survey and Crepuscular BUOW | 0700-1600 | 55/70 | 0-05 | Clear/Clear | 09/09/22 |
| **3/12/23** | Jill Coumoutso | Burrow Survey and Crepuscular BUOW | 0600-1100 | 52/63 | 0-05 | Cloudy/Cloudy | 03/01/22 |
| **3/27/23** | Jill Coumoutso | Crepuscular BUOW | 0530-1200 | 49/62 | 0-10 | Clear/Clear | 03/01/23 |
| **4/05/23** | Jill Coumoutso | Crepuscular BUOW | 0530-1200 | 50/68 | 0-05 | Clear/Clear | 03/01/23 |
| **4/25/23** | Jill Coumoutso | Crepuscular BUOW | 0530-1200 | 53/60 | 0-05 | Cloudy/Clear | 03/01/23 |
| **BUOW = Burrowing Owl**<br>**MPH = Miles Per Hour** | | | | | | | |

The lack of Burrowing Owls within the study area is likely a result of the depauperate landscape, active rail road paralleling the Project's northern boundary, and the presence of owl predators (e.g., Red-Tailed Hawk [*Buteo jamaicensis*] and Cooper's hawk [*Accipiter cooperii*]). Although the Project has potential to impact lands that could be utilized by Burrowing Owls as habitat – under the appropriate suite of environmental conditions, surveys for the species are negative. Therefore, there is no presumption that the Project would result in the loss of individual Burrowing Owls, or that it would adversely affect local - or regional, populations of them.

[1] While targeted owl surveys were limited to approximately 1 hour before sunrise to 2 hours after sunrise and 2 hours before sunset to 1 hour after sunset; the start and end times presented within this table details all time spent within the study area on any given day - which include setup, reporting and demobilization activities.

Representative photographs of the study area are provided below, and wildlife detected during the surveys are provided within Table No. 2.

| | |
|---|---|
|  | **Photograph 1.** Facing Southwest. |
|  | **Photograph 2.** Facing East. |

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| | |
|---|---|
|  | **Photograph 3.** Facing North. |
|  | **Photograph 4.** Potential burrow. |

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**TABLE NO. 2 – WILDLIFE DETECTED DURING FIELD SURVEYS**

| Scientific name | Common name |
|---|---|
| **Birds** | |
| *Agelaius phoeniceus* | Red-winged blackbird |
| *Accipiter cooperii* | Cooper's hawk |
| *Buteo jamaicensis* | Red-Tailed hawk |
| *Cathartes aura* | Turkey vulture |
| *Corvus corax* | Common Raven |
| *Calypte anna* | Anna's hummingbird |
| *Corvus brachyrhynchos* | American crow |
| *Sturnus vulgaris* | European Starling |
| *Carpodacus mexicanus* | House Finch |
| *Charadrius vociferus* | Killdeer |
| *Hirundo rustica* | Barn swallow |
| *Sturnella neglecta* | Western Meadowlark |
| *Passerculus sandwichensis* | Savanna sparrow |
| *Petrochelidon pyrrhonota* | Cliff swallow |
| *Columba livia* | Rock Pigeon |
| *Euphagus cyanocephalus* | Brewer's Blackbird |
| *Zonotrichia leucophrys* | White-crowned sparrow |
| *Falco sparverius* | American kestrel |
| *Mimus polyglottos* | Northern mockingbird |
| *Sayornis saya* | Say's phoebe |
| *Melospiza melodia* | Song sparrow |
| *Passer domesticus* | House Sparrow |
| *Sayornis nigricans* | Black phoebe |
| *Spinus psaltria* | Lesser goldfinch |
| *Sturnella neglecta* | Western meadowlark |
| *Tyrannus vociferans* | Cassin's kingbird |
| *Quiscalus quiscula* | Common Grackle |
| *Zenaida macroura* | Mourning Dove |
| **Mammals** | |
| *Otospermophilus beecheyi* | California ground squirrel |
| *Sylvilagus audubonii* | Desert cottontail |

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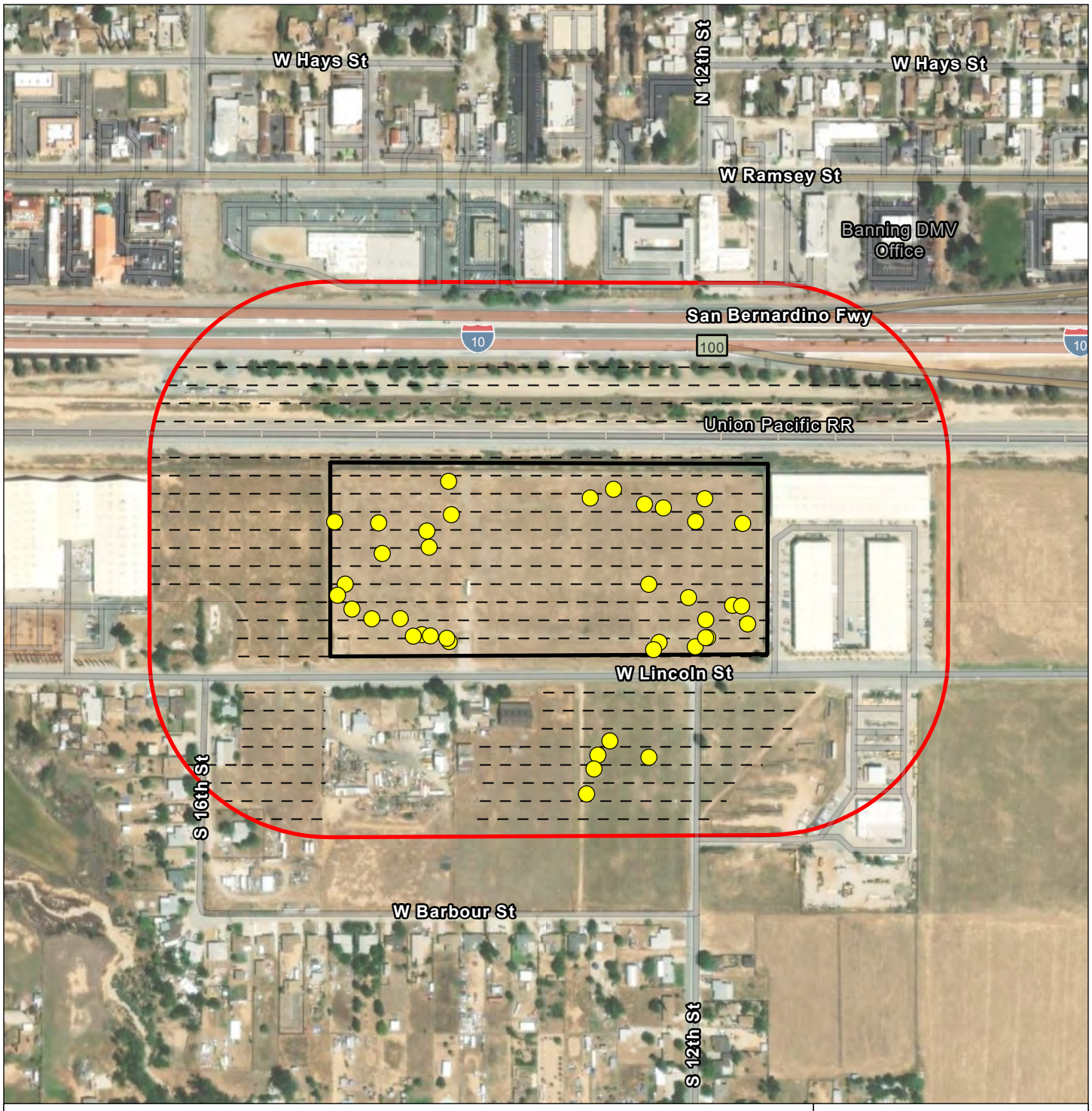


Project Site
Study Area
Burrowing Owl Survey Transects
Potential Burrow

0 200 400 Feet

1 inch = 400 feet

Data Sources:
-ESRI World Imagery 6/9/2020

Map Prepared: 7-5-23

Prepared by:
NOREAS
Environmental Engineering and Science

Figure 3. Burrowing Owl Survey Results

## 5.0 RECOMMENDED MEASURES TO AVOID AND MINIMIZED IMPACTS TO NESTING BIRDS

The following measures are recommended as a means of avoiding, and minimizing adverse impacts to nesting birds that have the potential to occur within the Project Site, and on adjacent lands:

- Due to the presence of potentially suitable habitat, a 30-day pre-construction survey for Burrowing Owls is warranted prior to initial ground-disturbing activities (including vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, grading, etc.). This is an MSHCP requirement, which safeguards that no owls have colonized the Project Site in the days - or weeks, preceding ground-disturbing activities.

    - If Burrowing Owls have colonized the Project Site prior to the initiation of ground-disturbing activities, the Project shall immediately inform the RCA and the appropriate wildlife agencies, to coordinate further regarding the need for a Project specific Burrowing Owl Protection and/or Relocation Plan.

    - If ground-disturbing activities occur, but the Project Site is left undisturbed for more than 30 days, a pre-construction survey will again be warranted to safeguard that Burrowing Owls have not colonized the Project Site since it was last disturbed. If Burrowing Owl is found, the same coordination described above would be necessary

- In order to comply with Section 10 of the Migratory Bird Treaty Act and relevant sections of the California Fish and Game Code, any vegetation clearing within the Project Site should take place outside of the typical avian nesting season (e.g., March 15$^{th}$ until September 1$^{st}$) – to the maximum extent practical. If work needs to take place between March 15$^{th}$ and September 1$^{st}$, a pre-activity survey for nesting birds would be warranted prior to the onset of Project activities. To the maximum extent practicable, a buffer zone from occupied nests should be maintained during physical ground disturbing activities. Once nesting has ended, the buffer may be removed.

- Limits of grading and construction activities shall be clearly delineated with temporary construction staking, flagging, or similar materials.

- To avoid attracting predators and nuisance species, the Project Site shall be clear of debris, where possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the Project.

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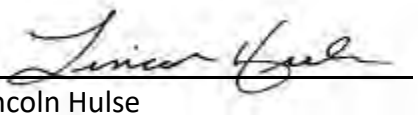
The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report. Opinions relating to presence, absence, or potential for occurrence of biological resources are based on limited data and actual conditions may vary from those encountered at the times and locations where the data were obtained despite due professional care.

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE: July 07, 2023

SIGNED: 

Lincoln Hulse

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# APPENDIX F
# MSHCP NARROW ENDEMIC PLANT SURVEY REPORT

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# BROWN AND STRAUSS INDUSTRIAL PROJECT

**July 2023**

## NARROW ENDEMIC PLANT SURVEY REPORT

**Prepared By**

16361 Scientific Way, Irvine, CA 92618
*(949) 467-9100*

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## 1.0 INTRODUCTION / SUMMARY

To support the Brown and Strauss Project (hereafter referred to as the Project), NOREAS Inc. (NOREAS) performed a focused Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), narrow endemic sensitive plant species visual encounter survey. According to the Regional Conservation Authority (RCA) MSHCP Information Map, the Project limits lie partially - or are completely within predetermined survey areas for narrow endemic sensitive plant species (i.e., Marvin's onion [*Allium marvinii*] and Many-stemmed dudleya [*Dudleya multicaulis*]).

The Project Site is located within the City of Banning, Riverside County, California (Figures 1 and 2); north of West Lincoln Street, and west of South 8th Street (Assessor's Parcel Numbers [APNs] 540-180-020, 540-180-022 and 540-180-026). The Project can be found on the Beaumont United States Geological Survey (USGS) 7.5-MinuteTopographic Quadrangle Map (USGS 1984). For the purposes of this report, the "Project Site" includes the Project's proposed ground disturbance footprint (Project Site). This report provides the methods, assumptions, and results of the 2023 targeted plant surveys for Marvin's onion and Many-stemmed dudleya.

In summary, Marvin's onion and Many-stemmed dudleya were not detected during the surveys. Given the extent of anthropogenic disturbance within the Project Site, the habitat quality is extremely low for special status plants. Therefore, there is no presumption that the Project would result in the loss of individual Marvin's onion and Many-stemmed dudleya, nor that it would adversely affect local or regional populations of them.

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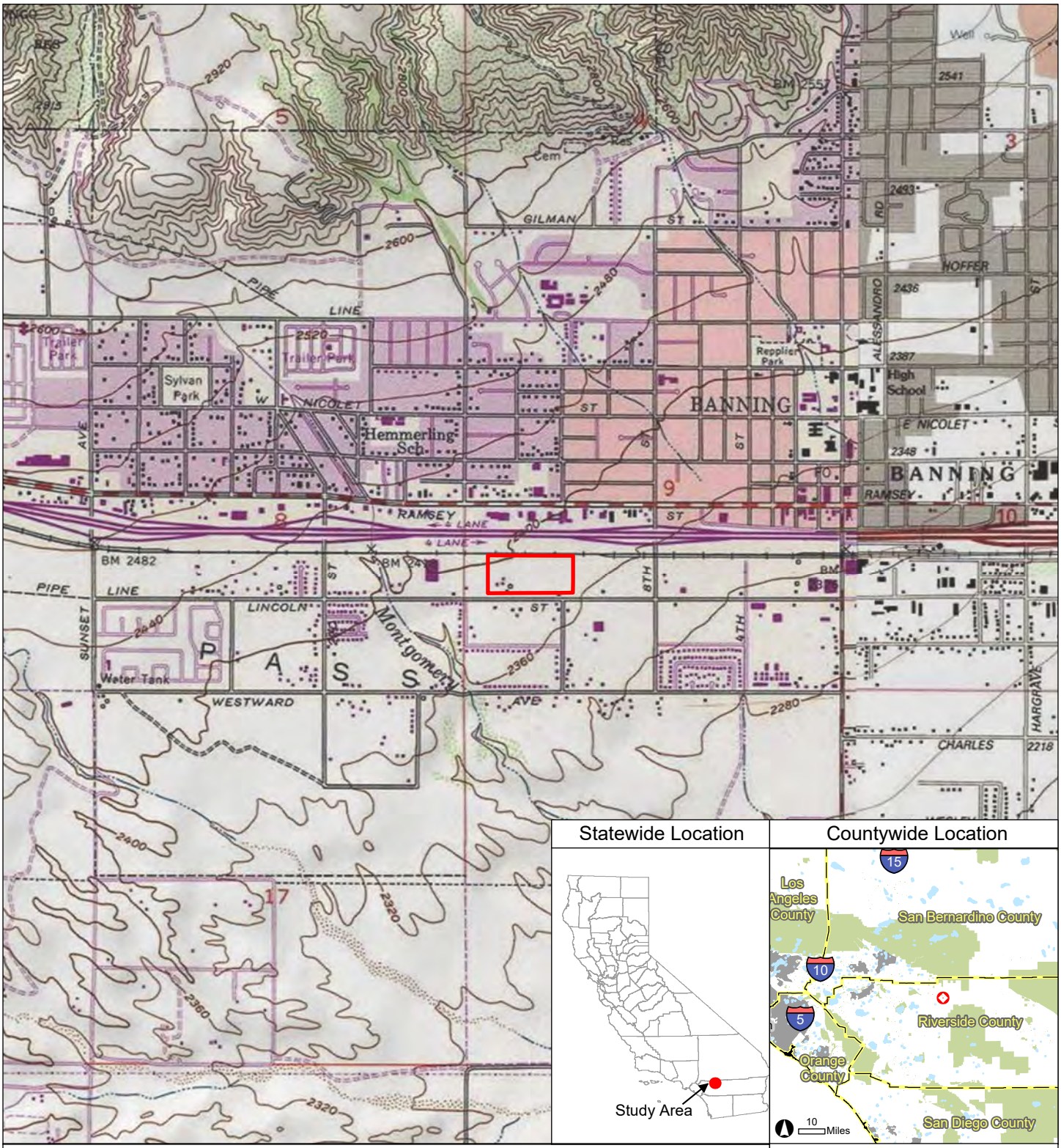


The Study Area is located in Riverside County on the Beaumont USGS 7.5-minute quadrangle map; San Bernardino Meridian, Township 3 South, Range 1 East, in Section 9
Center coordinate (WGS 1984): 116.891°W 33.923°N

Figure 1. Regional Location




Project Site (14.77 acres)

0 200 400 Feet

1 inch = 400 feet

Data Sources:
- ESRI World Imagery 6/9/2020

Map Prepared: 7-2-23

Prepared by:
NOREAS
Environmental Engineering and Science

Figure 2. Site Vicinity

## 2.0 METHODS

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans and relevant documents were reviewed to determine the locations and types of resources that have the potential to exist within and adjacent to the Project Site. Resources were evaluated within several miles of the Project. The primary materials reviewed included, but were not limited to, the following:

- ✓ US Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2023a);
- ✓ USFWS Riverside County Field Office Species List (USFWS 2023b);
- ✓ USFWS National Wetlands Inventory database (USFWS 2023c);
- ✓ California Natural Diversity Database maintained by the California Department of Fish and Wildlife (CDFW) (CDFW 2023);
- ✓ Natural Resource Conservation Service, Soil Survey Geographic Database (SSURGO) (USDA-NRCS 2023a);
- ✓ California Native Plant Society (CNPS) Electronic Inventory (CNPS 2023);
- ✓ MSHCP Transportation and Land Management Agency Geographic Information Services Database (GISD 2023);
- ✓ Regional Conservation Authority GIS Data Mapping Tool (RCA 2032, https://www.wrc-rca.org/rcamaps/);
- ✓ Western Riverside County Multiple Species Habitat Conservation Plan (Dudek 2003); and
- ✓ Aerial Photographs (Microsoft Corporation 2023).

Plants were identified to the lowest taxonomic[1] level sufficient to determine whether the species detected were non-native, native, or special-status. Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common species names were recorded according to The Jepson Manual (Baldwin et al. 2012).

Focused botanical surveys were conducted on 14 April and 17 May, 2023. Field survey methods were derived from the standardized guidelines issued by the U.S. Fish and Wildlife Service (USFWS 2000), California Department of Fish and Wildlife (CDFW 2009) and the California Native Plant Society (CNPS 2001). As previously stated, the field surveys were specifically conducted to determine the presence/absence of Marvin's onion and Many-stemmed dudleya, but the surveys were floristic[2] in nature. Surveys were conducted during the appropriate blooming period for Marvin's onion and Many-stemmed dudleya.

An evaluation of reference populations was performed prior to initiating surveys in early April of 2023 to safeguard that survey timing was appropriate[3], and to assess local variations in plant phenology[4] of the target species (Figure 3, Appendix A – Photographs 5 and 6). To that end, a targeted and methodical pedestrian-survey for Marvin's onion and Many-stemmed dudleya was conducted by walking through

[1] Botanical taxonomy is the practice and science of categorization or classification. A taxonomy (or taxonomical classification) is a scheme of classification, especially a hierarchical classification, in which plants are organized into groups or types.

[2] Focused on the distribution, number, types, and relationships of plant species in an area, or multiple areas.

[3] Prior to field surveys, a botanist visited a representative number of reference populations in 2023 to safeguard that survey timing was appropriate and to assess local variations in plant phenology. Reference populations were visited for both species that have a potential to occur.

[4] Phenology is the study of periodic events in biological life cycles and how these are influenced by seasonal and interannual variations in climate, as well as habitat factors.

areas of suitable habitat within Project Site. Survey transects[5] were spaced to allow for complete visual coverage of the Project Site. Transect spacing was reduced or expanded in the field to account for differences in terrain, vegetation density, visual field, health and safety considerations, access issues, and areas of potential habitat to provide adequate visibility.

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[5] A transect is a path along which one counts and records occurrences of the objects of study.




Figure 3. Reference Population Map

## 3.0 BOTANICAL SURVEY RESULTS

Weather conditions during the April and May 2023 surveys included partly cloudy skies, temperatures ranging from 65–72 °F, and winds vacillating from 0 to 05 miles per hour. During the pedestrian surveys it was determined that greater than 99% of the Project Site was comprised of disturbed, and/or non-native land cover types. Marvin's onion and Many-stemmed dudleya was not detected during any of pedestrian based biological surveys which were performed within the Project Site. Representative photographs of the Project Site, Marvin's onion and Many-stemmed dudleya reference populations are provided in Appendix A. Plant species observed during the surveys are listed in Appendix B.

The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report. Opinions relating to presence, absence, or potential for occurrence of biological resources are based on limited data and actual conditions may vary from those encountered at the times and locations where the data were obtained despite due professional care.

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United States Geological Service (USGS). 1984. 7.5-Minute Quadrangle Beaumont, California.


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# APPENDIX A

# PHOTOGRAPH LOG

| | |
|---|---|
|  | **Photograph 1.** Facing Southwest. |
|  | **Photograph 2.** Facing East. |

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| | |
|---|---|
|  | **Photograph 3.** Facing North. |
|  | **Photograph 4.** Facing West. |

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| | |
|---|---|
|  | **Photograph 5.** Marvin's onion reference population. |
|  | **Photograph 6.** Many-stemmed dudleya reference population. |

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# APPENDIX B

# PLANT SPECIES OBSERVED

| Scientific Name | Common Name |
|---|---|
| ***Asteraceae (Aster family)*** | |
| *Ambrosia dumosa* | Western ragweed |
| *Baccharis neglecta* | Roosevelt weed |
| *Baccharis sarothroides* | Desert broom |
| *Gnaphalium spp.** | Cudweed |
| *Lactuca serriola ** | Prickly lettuce |
| *Lasthenia gracilis** | Needle goldfields |
| *Matricaria discoidea** | Pineapple weed |
| *Oncosiphon piluliferum** | Stinknet |
| *Symphyotrichum chilense* | California aster |
| ***Anacardiaceae* (Cashew family)** | |
| *Schinus molle** | Peruvian pepper |
| ***Arecaceae (Palm family)*** | |
| *Syagrus romanzoffiana* | Queen palm |
| *Washingtonia Robusta** | Mexican fan palm |
| ***Boraginaceae (Forget-me-not family)*** | |
| *Amsinckia menziesii* | Fiddleneck |
| ***Brassicaceae (Mustard family)*** | |
| *Brassica nigra** | Black mustard |
| *Brassica Tournefortii** | Sahara mustard |
| *Pectocarya heterocarpa* | Chuckwalla combseed |
| *Plagiobothrys nothofulvus* | Rusty popocornflower |
| *Sisymbrium irio ** | London rocket |
| ***Cupressaceae (Cypress family)*** | |
| *Juniperus horizontalis** | Creeping juniper |
| ***Euphorbiaceae (Spurge family)*** | |
| *Croton setigerus** | Dove weed |
| ***Geraniaceae (Geranium family)*** | |
| *Erodium cicutarium** | Redstem stork's bill |
| ***Fabaceae (Pea family)*** | |
| *Lupinus bicolor* | Miniature lupine |
| *Medicago polymorpha ** | Burr medic |
| *Parkinsonia florida* | Blue palo verde |
| ***Malvaceae (Mallow family)*** | |
| *Malva parviflora** | Cheeseweed |
| ***Pinaceae (Pine family)*** | |

| Scientific Name | Common Name |
|---|---|
| *Pinus sp.** | Pine |
| ***Polemoniaceae (Phlox family)*** | |
| *Gilia spp.* | Gilia species |
| ***Poaceae (Grass family)*** | |
| *Avena fatua ** | Wild oat |
| *Bromus diandrus ** | Ripgut brome |
| *Bromus madritensis subsp. Rubens ** | Red brome |
| *Festuca arundinacea ** | Tall fescue |
| *Festuca myuros ** | Annual fescue |
| *Hordeum murinum ** | Wall barley |
| *Poa bulbosa ** | Bulbous bluegrass |

An "*" non-native plant species.

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# Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

## Brown Strauss Industrial Project

**Prepared for:**

**Brown Strauss, Inc.**

**Prepared by:**

**NOREAS Inc.**
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July 2023

Assessor's Parcel Numbers
540-180-020, 540-180-022 and 540-180-026.

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## 1 EXECUTIVE SUMMARY

The proposed Brown Strauss Industrial Project (hereinafter referred to as the "Project") consists of a 42,510 square foot (SF) warehouse, a 3,434 SF office, two 500 SF enclosed saw sheds attached to the warehouse, and an outdoor storage yard. The Project occurs at 1219 and 1431 West Lincoln Street, in the City of Banning, Riverside County, California, (Assessor's Parcel Numbers [APNs] 540-180-020, 540-180-022 and 540-180-026. For the purposes of this document, the "study area" includes the Project's proposed ground disturbance footprint (Project Site) and a buffer (Figures 1 and 2). Additionally, the Project is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), within the Pass Area Plan, Badlands Habitat Management Unit. The Project Site is not within the boundaries of any MSHCP established Subunit, Cell Group, Criteria Cell, Public/Quasi-Public Land, Linkages/Cores, Conserved Lands, or Regional Conservation Authority (RCA) Easements (Figures 3 and 4).

The Project limits of work only include 14.7-acres of developed, anthropogenically disturbed, and ruderal land cover types (Figure 5). The Project's northern boundary is paralleled by an active rail road. As such, the study area for the Project extended beyond its 14.7-acre permanent disturbance footprint, and included roughly 72.7-acres. According to the RCA MSHCP Information Map, Project limits lie partially - or completely, within predetermined survey areas for the Burrowing Owl (*Athene cunicularia*), and narrow endemic sensitive plant species (Marvin's onion [*Allium marvinii*] and Many-stemmed dudleya [*Dudleya multicaulis*]). But the Project is not within a survey area for criteria area sensitive plant species, amphibians, invertebrates, or mammals.

In 2012 the MSHCP mapped the vegetation within the Project Site as Urban (GISD 2023, Figure 6). In 2022 and 2023, no Burrowing Owl and no narrow endemic sensitive plant species were observed within the Project Site. To that end, two vegetation communities/land cover types were mapped within the study area: Developed/Disturbed and Ruderal. Additionally, no federal- or state-listed flora or fauna were observed within the study area during the 2022 and 2023 field surveys. The Project's 14.7-acre permanent disturbance footprint (Project Site) is comprised of developed, disturbed and non-native land cover types. The Project is not collocated with any United States Fish and Wildlife Service (USFWS) designated critical habitat (Figure 9), nor were any special status species observed during the 2022 and 2023 field surveys. No nesting birds, remnant raptor nests, or bat guano have been detected within the Project Site either. The Project's 14.7-acre permanent disturbance footprint has little value as suitable breeding, nesting, and foraging habitat for native species. Furthermore, the Project Site has limited – if any, worth as a low-quality migration corridor or overland dispersal habitat for wildlife, because it is severely movement constrained by the surrounding residential, industrial / commercial developments, and public infrastructure.

The target conservation acreage range for the Pass Area Plan is 22,510 – 27,895 acres; it is composed of approximately 13,970 acres of existing Public/Quasi-Public Lands and 8,540 – 13,925 acres of Additional Reserve Lands. The City of Banning is located entirely within the Pass

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Plan. The target acreage range within the City of Banning is 50 - 90 acres. Furthermore, conservation within the Pass Area Plan is centered around Proposed Constrained Linkage 22 and 23, Proposed Core 3 and a portion of Proposed Linkage 6. The Project's 14.7-acre permanent disturbance footprint includes no lands within - or immediately adjacent to MSHCP Proposed Constrained Linkage 22 and 23, Proposed Core 3, Proposed Linkage 6, Cell Groups, Criteria Cells or Subunits, Public/Quasi-Public Land, Conserved Lands, or RCA Easements. As such, the Project is not anticipated to adversely affect any of the MSHCP Pass Area Plan's Planning Species, Biological Issues and Considerations, Criteria for the aforesaid Subunits, or Reserve Assemble (Figures 3 and 4).

Nonetheless, Brown Strauss, Inc. will commit to a pre-construction Burrowing Owl survey that will be conducted prior to initiation of ground disturbance. If Burrowing Owls are observed, a Burrowing Owl Protection and Relocation Plan will be prepared.

## 2 INTRODUCTION

The purpose of this Consistency Analysis Report (Analysis) is to summarize the biological data for the Brown Strauss Industrial Project and to document its consistency with the goals and objectives of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). In a general sense, the Project consists of the construction of a warehouse, administrative office, two enclosed saw sheds, and an outdoor storage yard in the City of Banning, Riverside County, California.

### 2.1 Project Area

The Project's study area is defined as its proposed physical ground disturbance footprint (Project Site), plus a buffer (Figures 1 and 2). The Project includes Assessor Parcel Numbers (APNs) 540-180-020, 540-180-022 and 540-180-026. The Project's "study area" includes all lands to be affected directly and/or indirectly by the Project, and are not merely the immediate lands involved in the action itself. The APNs associated with the Project's "study area" include 540180032, 540180043, 540180044, 540180042, 538220002, 538220005, 540230001, 540230003, 540230030, 540230029, 540230005, 540230033, 540230019, 540230007, 540230014, 540230009, 540180030 and 540180057.

The Project Site can be found on the Beaumont United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle Map (USGS 1984) - Section 9, of Township 3 South and Range 1 East. The Project Site occurs at an approximate elevation of 2,400 ft. above mean sea level (MSL). Land use in the surrounding vicinity includes commercial, agriculture, residential and industrial endeavors. The Project's northern boundary is paralleled by an active rail road. The lands to be impacted by the Project include no MSHCP established Subunits, Cell Groups, Criteria Cells, Public/Quasi-Public Lands, Linkages/Cores, Conserved Lands, or RCA Easements (Figures 3 and 4). The Project's construction limit is 14.7-acres (Figure 2). The study area consists of Developed/Disturbed (55.03-acres) and Ruderal (17.73 - acres) land cover types. Representative photos of the study area are provided in Appendix G. The Project includes no off-site features, or staging areas. The Project does not include any proposed temporary impacts.

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## 2.2 Project Description

The Project consists of the construction of a 42,510 square foot (SF) warehouse, a 3,434 SF office, two 500 SF enclosed saw sheds attached to the warehouse, and an outdoor storage yard. The Project's construction limit is 14.7-acres. The study area consists of Developed/Disturbed (55.03-acres) and Ruderal (17.73 - acres) land cover types. The Project includes street improvements including curb, gutter, and pavement to the right-of-way along Lincoln Street, but does not include any off-site staging areas. The Project does not include any proposed temporary impacts. A construction Site Plan is included within Appendix A. This Project does not include regular weed abatement or fuel modification zones, as the entire 14.7-acres disturbance footprint will be built out.

## 2.3 Covered Roads

The Project Site is located at 1219 and 1431 West Lincoln Street within the City of Banning, Riverside County, California (Figures 1 and 2). Lincoln Street is a Covered Road – as identified by the RCA. Therefore, MSHCP Covered Operations and Maintenance Activities – may be applicable to Lincoln Street.

## 2.4 Covered Public Access Activities

The Project involves no construction or improvements to trails or other public access facility, referenced within MSHCP Section 7.4.2. Therefore, this MSHCP Section is not applicable.

## 2.5 General Setting

Two soil types occur within the Project Site - based on the U.S. Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) Soil Survey data sets (Figure 7):

- Greenfield sandy loam, 2 to 8 percent slopes, eroded; and
- Ramona sandy loam, 2 to 5 percent slopes, eroded.

Of the above referenced soil types, none are classified as hydric, and neither are known to support seasonal wetlands or special status invertebrates either. With that said, it is worth noting that the USDA-NRCS Soil Survey data, is predominately collected and developed through the use of historic aerial photographic interpretation - with limited ground truthing. Therefore, the data the USDA-NRCS Soil Survey provides does not represent precise information about the presence - or absence, of a specific soil, soil inclusion or land cover within an exact location in 2023. NRCS Soil Survey data users are cautioned that due to the limitations of mapping – primarily through aerial photo interpretation, a percentage of unique soil types may have gone unidentified - or misidentified.

Land use in the surrounding vicinity includes commercial, agriculture, residential and industrial endeavors. In 2012 the MSHCP mapped the vegetation within the Project Site as Urban (GISD 2022, Figure 6). In 2023, two vegetation communities/land cover types were detected within the Project Site: Developed/Disturbed and Ruderal (Figure 5).

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The Project's construction limit is 14.7-acres (Figure 2). The study area consists of Developed/Disturbed (55.03-acres) and Ruderal (17.73 - acres) land cover types. The Project's 14.7-acre permanent disturbance footprint (also referred to as the Project Site within this document) is comprised entirely of ruderal land cover types. The Project Site is not collocated with any USFWS designated critical habitat (Figure 9), nor were any special status species detected during the 2022 and 2023 field surveys. No rare plants, no nesting birds, no Burrowing Owls, no remnant raptor nests, and no bat guano have been detected within the Project Site either. Special-status species known to occur within several miles of the Project Site, and their potential for occurrence within it, are detailed within Appendix D and Figure 8.

Wildlife species observed within the study area consisted of commonly-occurring species - including, but not limited to, rock pigeon (*Columba livia*), Red-tailed hawk (*Buteo jamaicensis*) common raven (*Corvus corax*), and Side-blotched Lizard (*Uta stansburiana*). A complete list of wildlife species detected within and adjacent to the Project Site during the 2022 and 2023 field surveys are provided in Appendix C.

## 3 RESERVE ASSEMBLY ANALYSIS

The Project Site is located within the Pass Area Plan. But not within the boundaries of any MSHCP established Subunit, Cell Group, Criteria Cell, Public/Quasi-Public Land, Linkages/Cores, Conserved Lands, or RCA Easements. The target conservation acreage range for The Pass Area Plan is 22,510 – 27,895 acres; it is composed of approximately 13,970 acres of existing Public/Quasi-Public Lands and 8,540 – 13,925 acres of Additional Reserve Lands. The City of Banning is located entirely within the Pass Plan. The target acreage range within the City of Banning is 50 - 90 acres. Furthermore, conservation within the Pass Area Plan is centered around Proposed Constrained Linkage 22 and 23, Proposed Core 3 and a portion of Proposed Linkage 6. The Project's 14.7-acre permanent disturbance footprint includes no lands within or immediately adjacent to MSHCP Proposed Constrained Linkage 22 and 23, Proposed Core 3 and a portion of Proposed Linkage 6, Cell Groups, Criteria Cells or Subunits. As such, the Project is not anticipated to adversely affect any of the MSHCP Pass Area Plan's Planning Species, Biological Issues and Considerations, and Criteria for the aforesaid Subunits.

The Project's 14.7-acre permanent disturbance footprint does not impact any of the Pass Area Plan's 4 Subunits. The Project is not anticipated to adversely affect any of the MSHCP Pass Area Plan's Planning Species, Biological Issues and Considerations, and Criteria for the aforesaid Subunits. As stated above, the Project Site includes no land, nor is it connected, or adjacent to any Cell Groups, Criteria Cells, habitat proposed for conservation, locales proposed for additional reserve assembly, cores or linkages within the MSHCP.

According to the RCA MSHCP Information Map, the Project limits lie partially or completely within predetermined survey areas for the Burrowing Owl and narrow endemic plant species. But the Project Site is not within a survey area for criteria area plant species, amphibians or mammals. Therefore, a Burrowing Owl habitat suitability assessment was conducted in accordance with the MSHCP Burrowing Owl survey instructions. Since suitable habitat was present for owls, surveys were performed. Similarly - per the MSHCP, lands that occur within a survey area for narrow

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endemic, plant species, must have a habitat evaluation for the species. Since suitable habitat was present – albeit low quality, for narrow endemic pant species, surveys were performed. No special status animals, or narrow endemic pant species were observed within the Project Site during the 2022 and 2023 field survey events. Furthermore, the Project is not collocated with any USFWS designated critical habitat (Figure 9). Based on the results of the 2022 and 2023 field surveys, no Burrowing Owls and no narrow endemic plant species were observed within, or adjacent to the Project Site.

### 3.1 Public Quasi-Public Lands

The majority of the cities in western Riverside County, have contributed open space/land to help establish the MSHCP Conservation Area. These lands are described in the MSHCP as Public/Quasi-Public (PQP) Lands.

#### 3.1.1 Public Quasi-Public Lands in Reserve Assembly Analysis

P/QP Lands are a subset of MSHCP Conservation Area lands that are known to be in public/private ownership and expected to be managed for open space value and/or in a manner that contributes to the Conservation of Covered Species (including lands contained in existing reserves). The Project's 14.7-acre permanent disturbance footprint is not within, nor is it immediately adjacent to - PQP lands (Figure 4).

#### 3.1.2 Project Impacts to Public Quasi-Public Lands

The Project will not directly impact any PQP lands because its disturbance footprint is not located with PQP Lands.

## 4 VEGETATION MAPPING

On 30 November 2022, a pedestrian-based field survey was performed by NOREAS Inc. (NOREAS) to define general and dominant land cover types, vegetation types, plant community sizes, habitat types, and species present within communities. Type descriptions were based on observed dominant cover and vegetation composition; and were derived from the criteria and definitions of widely accepted land classification systems (Holland 1986; and Sawyer et al. 2009). Plants were identified in the field to the lowest taxonomic level sufficient to determine whether the species detected were non-native, native, or special-status. Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common species names were recorded according to Baldwin et al. (2012) and those detailed in Sections 2.1.3 and 6.1.2 of the MSHCP. This method of floristic survey was conducted to safeguard that special-status plant species were not inadvertently overlooked because they were not targeted during surveys.

Two vegetation communities/land cover types were detected within the study area: Developed/Disturbed and Ruderal. (Table 1, and Figure 5). Cover types are described in detail below.

Developed/Disturbed - Disturbed/Developed lands within the study area include locales that have been developed, paved, cleared, graded, or otherwise altered by anthropogenic

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activities (i.e., industrial warehouses, access roads, concrete pads, ornamental landscaping, residential, industrial facilities, storage yards, commercial enterprises, etc.). Common non-native plants species detected within this type included ripgut brome (*Bromus diandrus*), Sahara mustard (*Brassica Tournefortii)* and Schismus (*Schismus barbatus*).

Ruderal - The ruderal vegetation community includes locales that have been subject to recent grading, clearing, or other physical human modification of soils and/or vegetation. These lands also include areas with exposed soils with minimal vegetation, and moderate cover by various non-native annual grasses, and weeds (adapted for growth on substrates subject to disturbance). Common non-native plants species detected within this type included Maltese star-thistle (*Centaurea melitensis*), stinknet (*Oncosiphon piluliferum*), and cheeseweed (*Malva neglecta*). The native fiddleneck (*Amsinckia Intermedia*) was also observed sporadically throughout this vegetation community.

**Table 1. Vegetation Community/Land Cover Types**

| Vegetation Community/Land Cover Type | Study Area Acres | Project Site Acres | Permanent Impact Acres | Permanent Impact Acres Inside a Subunit, Cell Group, Criteria Cell, PQP Lands, Linkages/Cores, Conserved Lands, or RCA Conservation Easements | Permanent Impact Acres Outside a Subunit, Cell Group, Criteria Cell, PQP Lands, Linkages/Cores, Conserved Lands, or RCA Conservation Easements. |
|---|---|---|---|---|---|
| **Disturbed /Developed** | 55.03 | 0.00 | 0.00 | 0 | 0.00 |
| **Ruderal** | 17.73 | 14.77 | 14.77 | 0 | 14.77 |
| **Total** | **72.76** | **14.77** | **14.77** | 0 | **14.77** |

In general terms, the plants observed in the study area included a range of native and non-native species common to disturbed habitats, etc. Commonly-occurring species included: ripgut brome, Sahara mustard, and Schismus, among others. Please note that in 2012, the MSHCP mapped the vegetation within the Project Site as Urban Lands (GISD 2021; Figure 6). A comprehensive list of plant species observed during the 2022 surveys is presented in Appendix B.

## 5 PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS (SECTION 6.1.2)

According to Section 6.1.2 of the MSHCP:

"**Riparian/Riverine Areas** are lands which contain Habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year."

"**Vernal pools** are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by-case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records."

"**Fairy Shrimp**. For Riverside, vernal pool and Santa Rosa fairy shrimp, mapping of stock ponds, ephemeral pools and other features shall also be undertaken as determined appropriate by a qualified biologist.

"With the exception of wetlands created for the purpose of providing wetlands Habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above which are artificially created are not included in these definitions."

### 5.1 Riparian/Riverine

As defined under Section 6.1.2 of the MSHCP, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, riparian/riverine areas are areas dominated by trees, shrubs, persistent emergent plants, or emergent mosses and lichens which occur close to or are dependent upon nearby freshwater, or areas with freshwater flowing during all or a portion of the year. Conservation of these areas is intended to protect habitat that is essential to several listed or special-status water-dependent fish, amphibian, avian, and plant species. This assessment is independent from considerations given to Waters of the United States (WoUS) and Waters of the State (WoS), under the Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act, and California Department of Fish and Wildlife (CDFW) jurisdictional streambed under the California Fish and Game Code (FGC).

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5.1.1 Methods

The Project Site was evaluated via field surveys on 30 November 2022, 12 March and 05 April of 2023 for the presence of riverine/riparian and vernal pool areas, and jurisdictional waters (i.e., WoUS as regulated by the United States Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB), streambeds and associated riparian habitat as regulated by the CDFW. This evaluation was completed using data acquired from current and historic imagery, hydrologic databases, analytic tools, and physical on the ground analyses/measurements by subject matter experts. Historic and current aerial photography of the Project Site were reviewed, prior to and during the field assessments. Aerial photography was informative with deference to the state and function of land resources in both the present, and historic context. As, inundation and vegetative signatures on aerial images can imply the presence - or absence, of waters, or a stream system within a discrete location.

The U.S. Environmental Protection Agency (EPA) WATERS GeoViewer tool also provided access to spatial data sets - such as interactive Upstream/Downstream search capabilities, and interactive Watershed Delineation, to assist in determining the jurisdictional status of resources detected within the region (epa.maps.arcgis.com/apps/webappviewer). Additionally, the Federal Emergency Management Agency (FEMA) flood zone was reviewed, in addition to the National Wetland Inventory (NWI) – which is maintained by the U.S. Fish and Wildlife Service (USFWS). This was done to support with the identification of potential aquatic resources within the Project Site.

To that end, the Project Site was assessed for the presence of federal jurisdictional Waters of the United State (WoUS), pursuant to the regulations and regulatory guidance outlined within the existing "2023 WoUS Rule," implemented in March 2023; and followed the guidance in the Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (USACE 2008). Furthermore, the ordinary high-water mark (OHWM) of potential other WoUS were evaluated in the field following the guidance in A Field Guide to the Identification of the Ordinary High-Water Mark in the Arid West Region in the Western United States (USACE 2008).

Additionally, the Project Site was evaluated for the presence of lakes, rivers, or streambeds subject to regulation under Section 1600 (et seq.) of the California Fish and Game Code (FGC). CDFW has provided information and practical guidance for consistent and uniform administration of Section 1600 (et seq.) of the CFG Code within A Field Guide to Lake and Streambed Alteration Agreements Sections 1600-1607 (ESD-CDFG 1994). While there is no definition for the term lake in the CFG Code or associated regulations, the term stream, which includes creeks and rivers, is defined within Title 14, California Code of Regulations (CCR), Section 1.72:

> "A stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

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This evaluation was completed using the regulations, manuals, and guidance documentation created to identify features regulated under the aforementioned CFG Code Sections.

The methods used to determine any riparian/riverine or vernal pool areas were based on the above techniques as well as soils evaluations and vegetation classifications. This is because an area may be characterized as riparian based on its vegetative composition, but not meet the criteria of being federal or state jurisdictional water.

### 5.1.2 Existing Conditions and Results

According to the USGS and the USFWS National Wetland Inventory: there are no current or historical drainages on, or adjacent to, or even near the Project Site. There was also no evidence of current or historical drainages / water conveyance features observed during the field evaluations of the study area in 2022 and 2023 (Figure10). No hydric vegetation, signs of surface flow, and/or wetland hydrology were present in, adjacent to, or near any portion of the Project Site. Therefore, no riparian/riverine areas occur within Project limits. Furthermore, there are no features within the Project Site that have a surface connection to Montgomery Creek. It is also notable, that both EPA WATERS GeoViewer results, National Wetland Inventory and USGS 7.5 Quadrangle Map evidence no stream channels within the Project Site. Additionally, soil types mapped within the Project Site are well drained, and none have a hydric soil rating.

### 5.1.3 Impacts

There is no impact to riparian/riverine resources because no evidence of any soils, plants or other features that meet the definition of 6.1.2 of the MSHCP were visible within the Project Site.

### 5.1.4 Mitigation

There is no mitigation for riparian/riverine resources because there is no impact to riparian/riverine resources within the Project Site.

## 5.2 Vernal Pools

Vernal pools are seasonally inundated, ponded areas that only form in regions where specialized soil and climatic conditions exist. During fall and winter rains typical of Mediterranean climates, water collects in shallow depressions where downward percolation of water is prevented by the presence of a hard pan or clay pan layer (duripan) below the soil surface. Later in the spring when rains decrease and the weather warms, the water evaporates, and the pools generally disappear by May. The shallow depressions remain relatively dry until late fall and early winter with the advent of greater precipitation and cooler temperatures.

Vernal pools provide unusual "flood and drought" habitat conditions to which certain plant and wildlife species have specifically adapted - as well as, invertebrate species such as fairy shrimp. One of the factors for determining the suitability of the habitat for fairy shrimp would be demonstrable evidence of seasonal ponding in an area of topographic depression that is not subject to flowing waters. These astatic pools are typically characterized as vernal pools. More specifically, vernal pools are seasonal wetlands that occur in depression areas without a continual source of water. They have wetland indicators of all 3 parameters (soils, vegetation, and

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hydrology) during the wetter portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season.

The determination that an area exhibits vernal pool characteristics and the definition of the watershed supporting vernal pool hydrology is made on a case-by-case basis. Such determinations consider the length of time the area exhibits upland and wetland characteristics, and the way the area fits into the overall ecological system as a wetland. The seasonal hydrology of vernal pools provides for a unique environment, which supports plants and invertebrates specifically adapted to a regime of winter inundation, followed by an extended period when the pool soils are dry. The MSHCP lists two general classes of soils known to be associated with special-status plant species; clay soils and Traver-Domino Willow association soils. Without the appropriate soils to create the impermeable restrictive layer, none of the special-status species associated with vernal pools can occur.

### 5.2.1 Methods

Methods included a review of recent and historic aerial photographs (2000-2022) of the Project Site and its immediate vicinity, a review of soils data, and 100 percent visual coverage pedestrian evaluation of the study area. The team looked for signs of clayey soils, ponding, cracking, mottling, etc.

### 5.2.2 Existing Conditions and Results

A review of recent and historic aerial photographs of the Project Site and its immediate vicinity did not provide visual evidence of an astatic or vernal pool conditions – on, or in the vicinity of the Project Site. Two soil types occur within the Project Site based on U.S. Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) Soil Survey data sets (Figure 7):

- Ramona sandy loam, 2 to 5 percent slopes; and
- Greenfield sandy loam, 2 to 8 percent slopes,

Of the above referenced soil types, none are the appropriate soils to support vernal pools, nor are they known to support seasonal wetlands, or special status invertebrates in Western Riverside County. No ponding was observed within the Project Site and the hydrologic regime associated with it does not support vernal pools, or astatic ponds. From the review of historic aerial photographs and observations during the field investigations, it is concluded no vernal pools or suitable fairy shrimp habitat occur within the Project's permanent disturbance footprint. Further, no special status plant species associated with vernal pools were observed during the field visits either.

### 5.2.3 Impacts

There are no impacts to vernal pools because none occur within the Project Site, and the soil types within the it do not support the potential for vernal pools.

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5.2.4 Mitigation

No mitigation is required because no vernal pools exist within the Project Site.

5.3 Fairy Shrimp

Fairy shrimp can be found in non-vernal pool features such as stock ponds, ephemeral pools, road ruts, human-made depressions, or other depressions that may pond water. No habitat features suitable for fairy shrimp exist within the Project Site. Therefore, evaluations for the presence of fairy shrimp were not warranted - or required. No further discussion on fairy shrimp is made in this report.

5.4 Riparian Birds

Riparian Birds covered under the MSHCP such as the Least Bell's vireo (*Vireo bellii pusillus*) [LBVI], Southwestern willow flycatcher (*Empidonax trallii extimus*) [SWWF] and Yellow-billed cuckoo (*Coccyzus americanus*) [YBCU] are found only in well-developed riparian habitat. No habitat features suitable for any riparian birds exist within the Project Site. Therefore, evaluations for the presence of riparian birds were not warranted - or required. No further discussion on riparian birds is made in this report.

## 6 PROTECTION OF NARROW ENDEMIC PLANT SPECIES (SECTION 6.1.3)

The Project lies within a predetermined survey area for the following MSHCP Narrow Endemic Plant Species:

- Marvin's onion (*Allium marvinii*); and
- Many-stemmed dudleya (*Dudleya multicaulis*).

6.1.1 Methods

Field surveys for MSHCP narrow endemic plant species methods were derived from the standardized guidelines issued by the U.S. Fish and Wildlife Service (USFWS 2000), California Department of Fish and Wildlife (CDFW 2009) and the California Native Plant Society (CNPS 2001). As previously stated, the field surveys were specifically conducted to determine the presence/absence of MSHCP narrow endemic plant species, but the surveys were floristic in nature. Surveys were conducted during the appropriate blooming period for the MSHCP narrow endemic plant species.

6.1.2 Existing Conditions and Results

Habitat in the vicinity of the Project consists of developed/disturbed and ruderal land cover types. To that end, the results of the MSHCP narrow endemic plant species surveys imply that there are no special status plants present within the Project Site. Detailed field survey results are provided in Appendix F.

6.1.3 Impacts

No impacts can be identified, in that no MSHCP narrow endemic plant species were observed within the Project Site.

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### 6.1.4 Mitigation

No mitigation is required because no MSHCP narrow endemic plant species exist within the Project Site.

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# 7 ADDITIONAL SURVEY NEEDS AND PROCEDURES (SECTION 6.3.2)

The Project Site is not mapped in a Criteria Survey Area for plants, mammals or amphibians. It is however, mapped in a Criteria Survey Area for Burrowing Owl. Surveys must be conducted within suitable habitat for this species according to accepted protocols. Under the MSHCP, Burrowing Owl is considered an adequately conserved covered species that still requires focused surveys in certain areas as designated in Figure 6-4 of the MSHCP.

## 7.1 MSHCP Criteria Area Sensitive Plant Species

The Project is not within a predetermined survey area for MSHCP Criteria Area Plant Species. Therefore, no further discussion is made in this document with deference to MSHCP Criteria Area Plant Species.

## 7.2 Burrowing Owl

The Project Site is within a mapped survey area for Burrowing Owl, in accordance with MSHCP Figure 6-4, and a recent review of the RCA MSHCP Information GIS map. The Burrowing Owl is a grassland specialist distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing Owls use a wide variety of arid and semi-arid environments with level to gently sloping areas characterized by open vegetation and bare ground. The western Burrowing Owl, which occurs throughout the western United States including California, rarely digs its own burrows and is instead dependent upon the presence of burrowing mammals (i.e., California ground squirrels [*Otospermophilus beecheyi*], coyotes, and badgers [*Taxidea taxus*]) whose burrows are often used for roosting and nesting.

The presence or absence of colonial mammal burrows is often a major factor that limits the presence or absence of Burrowing Owls. Where mammal burrows are scarce, Burrowing Owls have been found occupying manmade cavities, such as buried and non-functioning drainpipes, stand-pipes, and dry culverts. They also require low growth or open vegetation allowing line-of-sight observation of the surrounding habitat to forage and watch for predators. In California, the Burrowing Owl breeding season extends from the beginning of February through the end of August. Under the MSHCP, Burrowing Owl is considered an adequately conserved covered species that still requires focused surveys in certain areas as designated in Figure 6-4 of the MSHCP. The survey for Burrowing Owl requires a systematic survey of areas that provide suitable habitat - plus an approximately 500 feet zone of influence on all sides of suitable habitat, where applicable.

### 7.2.1 Methods

A Burrowing Owl habitat suitability assessment and burrow survey was conducted on November 30, 2022 in accordance with the March 29, 2006 Western Riverside County MSHCP Burrowing Owl survey instructions. Since suitable habitat was detected for Burrowing Owls within the study area, four (4) additional surveys were performed. Targeted owl surveys were conducted on 12

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and 27 March and 05, 25 April 2023. Surveys were performed when weather conditions were conducive to observing owls outside of burrows

Natural and non-natural substrates were examined for potential burrow sites. Potential burrows encountered were examined for shape, size, molted feathers, whitewash, cast pellets and/or prey remains. Disturbance characteristics and other animal sign encountered within the study area were recorded. A hand-held, global positioning system (GPS) unit with sub meter accuracy was used to survey transects that were prepared within a Geographic Information System prior to the start of field surveys, to identify study area boundaries, and for other pertinent information. Representative photographs of the study area were taken, and recent aerial photographs were evaluated for Project Site and surrounding area. Detailed field survey methods are provided in Appendix E.

### 7.2.2 Existing Conditions and Results

Habitat in the vicinity of the Project consists of developed/disturbed and ruderal land cover types. No Burrowing Owls were detected nesting, foraging, or dispersing during pedestrian-based field surveys in 2022 and 2023. Numerous low quality potential burrows were observed within the study area. The burrows detected lacked any evidence of owl tracks, molted feathers, cast pellets, prey remains, egg shell fragments, owl white wash, nest burrow decoration materials, or other items. Detailed field survey results are provided in Appendix E. Burrowing Owls are absent from the Project Site

### 7.2.3 Impacts

No impacts can be identified, in that no Burrowing Owl or Burrowing Owl sign was observed within the Project Site.

### 7.2.4 Mitigation

To safeguard there will be no impact to Burrowing Owl, a pre-construction survey is warranted. The suggested mitigation is as follows:

> "Prior to issuance of a grading permit, a preconstruction survey shall be conducted within 30 days prior to ground disturbance to avoid direct take of Burrowing Owls. If the results of the survey indicate that no Burrowing Owls are present within the Project Site, then the project may move forward with grading, upon Planning Department approval. If Burrowing Owls are found to be present or nesting within the Project Site during the preconstruction survey, then the following recommendations must be adhered to: Exclusion and relocation activities may not occur during the breeding season, which is defined as March 1 through August 31, with the following exception: From March 1 through March 15 and from August 1 through August 31 exclusion and relocation activities may take place if it is proven to the Lead Agency and/or appropriate agencies (if any) that egg laying or chick rearing is not taking place. This determination must be made by a qualified biologist."

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## 8 INFORMATION ON OTHER SPECIES

8.1 Delhi Sands Flower Loving Fly

The Project Site does not fall within the Delhi soils mapped within the MSHCP baseline data Figure 7).

8.2 Species Not Adequately Conserved

MSHCP Table 9-3 identifies 28 species where requirements must be met for those to be considered not adequately conserved. None of the species listed in the MSHCP Table 9-3 occur on or near the Project Site. Therefore, there is no further action required.

## 9 GUIDELINES PERTAINING TO THE URBAN/WILDLANDS INTERFACE (SECTION 6.1.4)

The MSHCP Section 6.1.4 Guidelines are intended to address indirect effects associated with locating development in proximity to MSHCP Conservation Areas, where applicable. The Project's permanent impact area is not in proximity to an established Cell Group, Criteria Cell, PQP Land, Linkage / Core, Conserved Land, or RCA Conservation Easement, therefore, the MSHCP guidelines pertaining to Urban/Wildlands Interface for the management of edge factors such as lighting, urban runoff, toxics, and domestic predators do not apply.

## 10 BEST MANAGEMENT PRACTICES (VOLUME I, APPENDIX C)

This section of the report is designed to describe and comment as to the necessity of implementation of the BMPs identified in Volume 1, Appendix C. The BMPs and their applicability to the Project is identified in Table 2.

**Table 2. MSHCP Best Management Practices Applicability (Volume 1, Appendix C)**

| BMP | Applicable Yes or No | Comment |
|---|---|---|
| **No. 1 – A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for Project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the Project, and the access routes to and Project boundaries within which the Project activities must be accomplished.** | Not Applicable | There are no special status species within, or near the Project Site |

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| BMP | Applicable Yes or No | Comment |
|---|---|---|
| **No. 2 – Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.** | Yes | The Project will include grading and paving. |
| **No. 3 – The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via preexisting access routes to the greatest extent possible.** | Yes | The Project Site is < 14.7-acres, and is accessible from West Lincoln Street. |
| **No. 4 – The upstream and downstream limits of Projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.** | Not Applicable | There are no streambed resources on, or near the Project Site |
| **No. 5 – Project should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.** | Not Applicable | There are no streambed Resources, on or near the Project Site |
| **No. 6 – Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian identified in MSHCP Global Species Objective No. 7.** | Not Applicable | There are no sensitive habitat, riparian or streambed resources on, or near the Project Site |
| **No. 7 – When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing of other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments offsite. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.** | Not Applicable | There are no streambed resources on, or near the Project Site |
| **No. 8 – Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be in such a manner as** | Not Applicable | There are no sensitive habitat, riparian or streambed resources on, or near the Project Site |

| BMP | Applicable Yes or No | Comment |
|---|---|---|
| **to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, FWS, and CDFG, RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.** | | |
| **No. 9 – Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.** | Not Applicable | There are no water courses, streambed resources on, or near the Project Site |
| **No. 10 – The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the Project Site** | No (But available as needed) | The Project Site consists of Developed/Disturbed and Ruderal land cover types. |
| **No. 11 – The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.** | No | Project includes no temporary impacts, and the Project Site consists of Developed/Disturbed and Ruderal land cover types. |
| **No. 12 – Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.** | Yes | The Project Site will remove Developed/Disturbed and Ruderal land cover types from Riverside County. |
| **No. 13 – To avoid attracting predators of the species of concern, the Project Site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).** | Yes | Standard Measure |
| **No. 14 – Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed Project Site and designated staging areas and routes of** | Yes | Standard Measure |

| BMP | Applicable Yes or No | Comment |
|---|---|---|
| **travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.** | | |
| **No. 15 – The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/ enhancement area for compliance with project approval conditions including these BMPs.** | Yes | Standard Measure |

## 11 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE: July 24, 2023

SIGNED: _____

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# FIGURES

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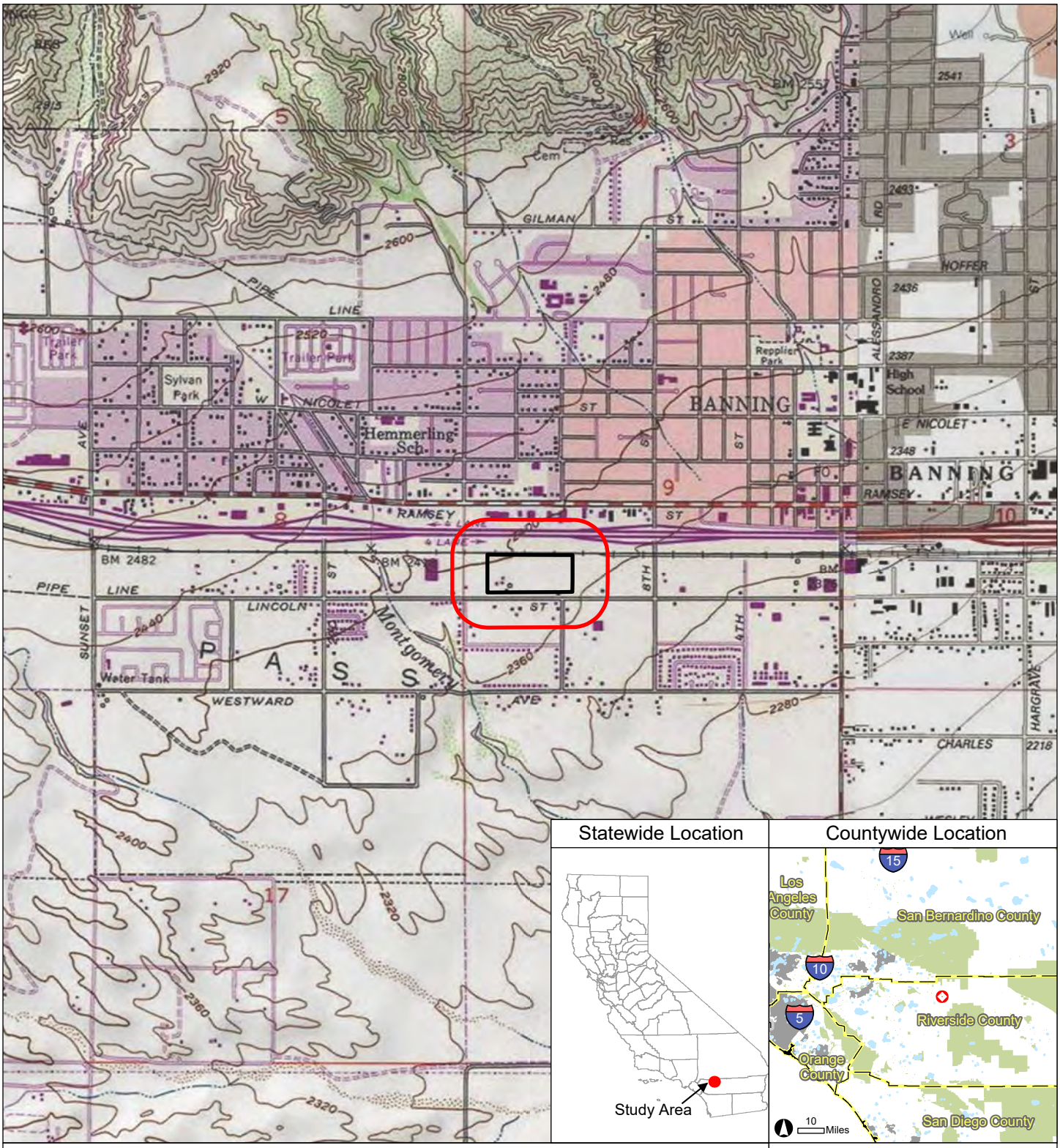



Figure 1. Regional Location




Project Site (14.77 acres)

Study Area (72.77 acres)

0 200 400 Feet

1 inch = 400 feet

Data Sources:
- ESRI World Imagery 6/9/2020

Map Prepared: 4-19-23

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 2. Site Vicinity

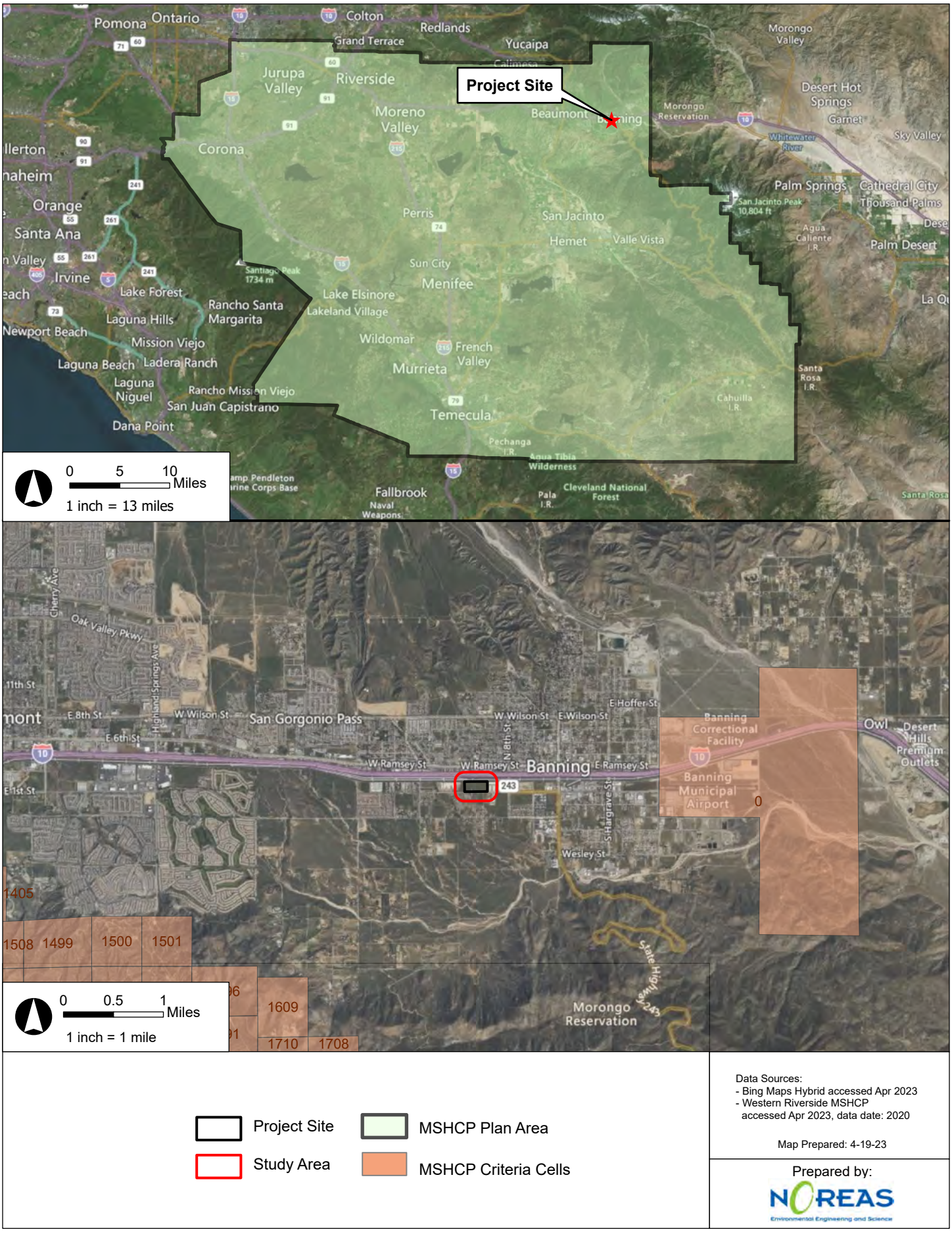



Figure 3. MSHCP Criteria Cells

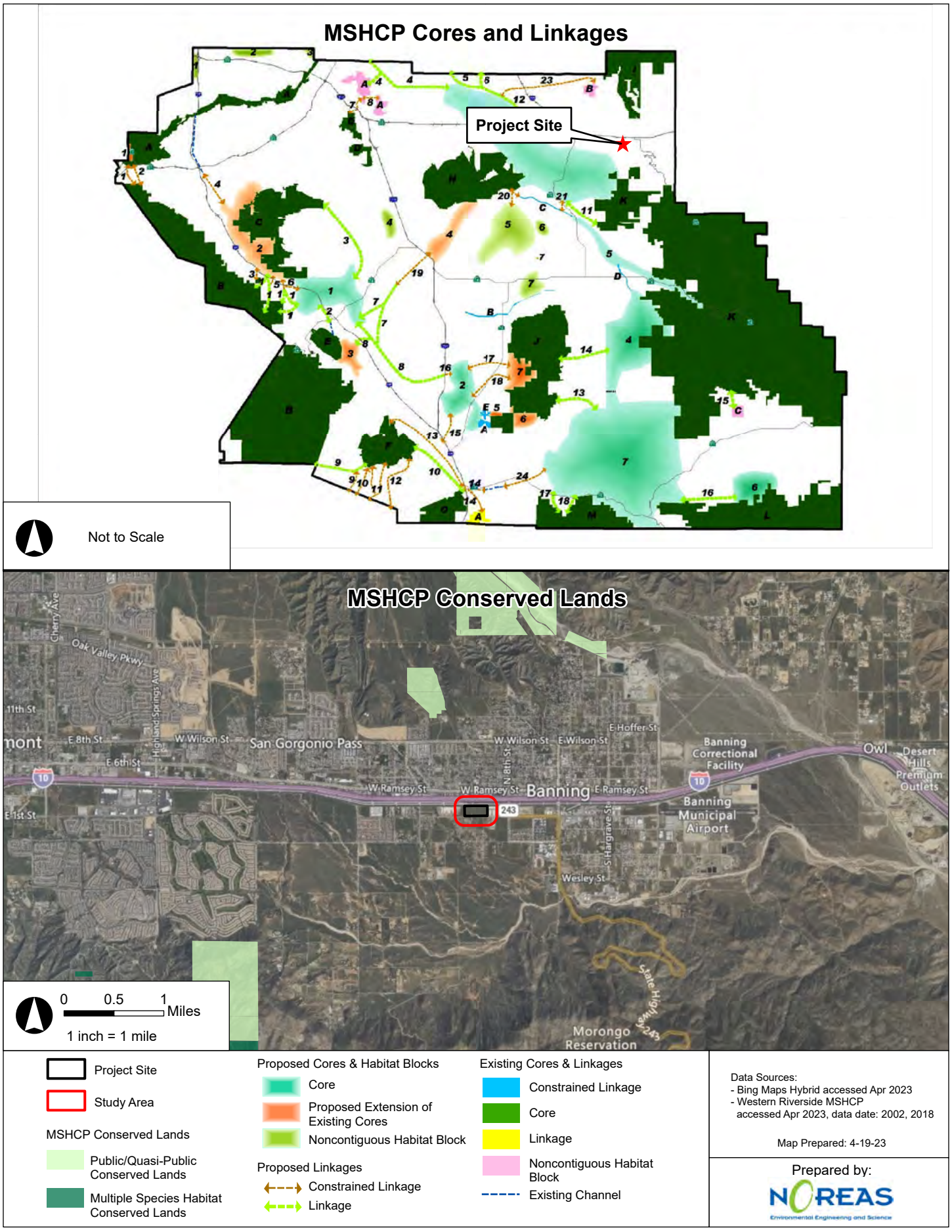



Figure 4. Cores, Linkages, and Conserved Lands

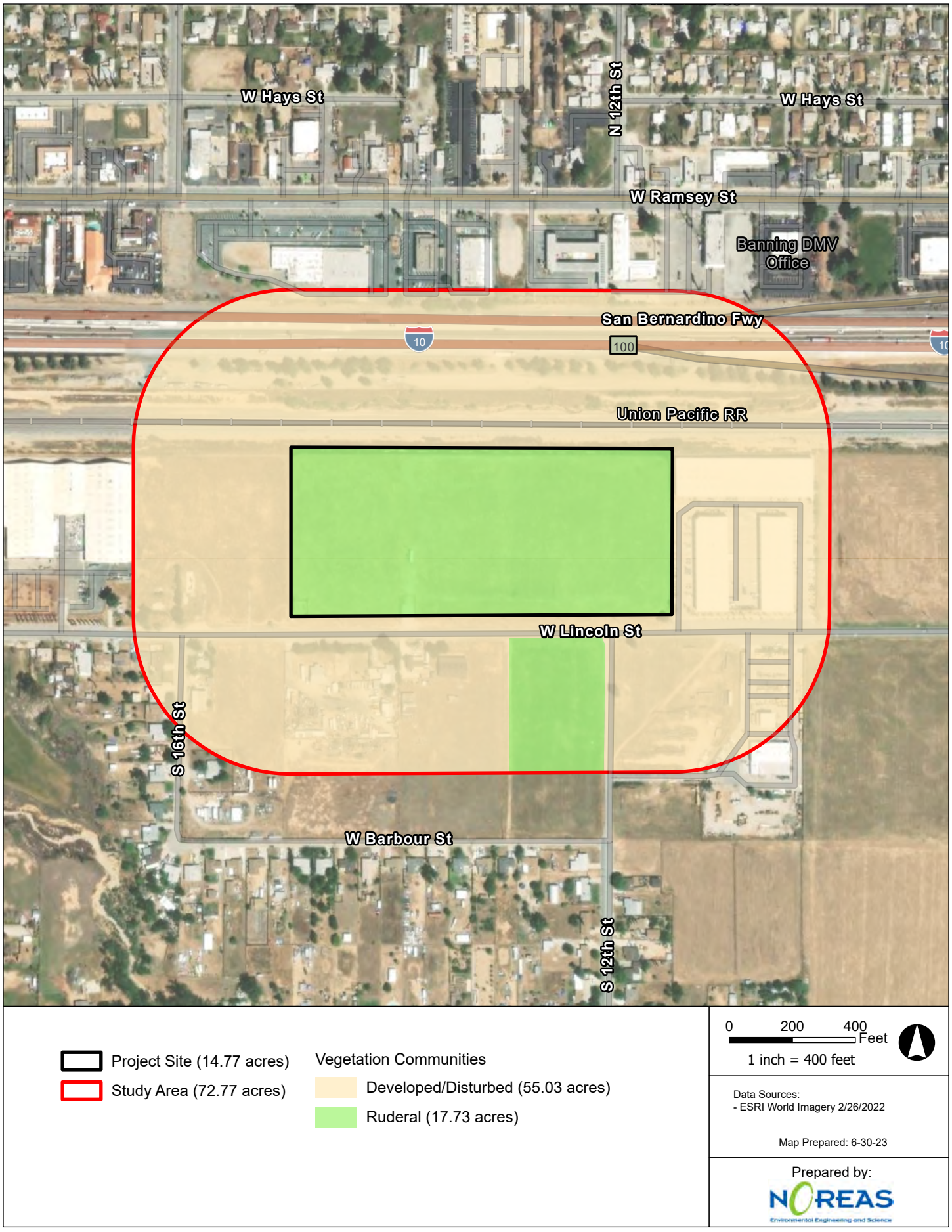
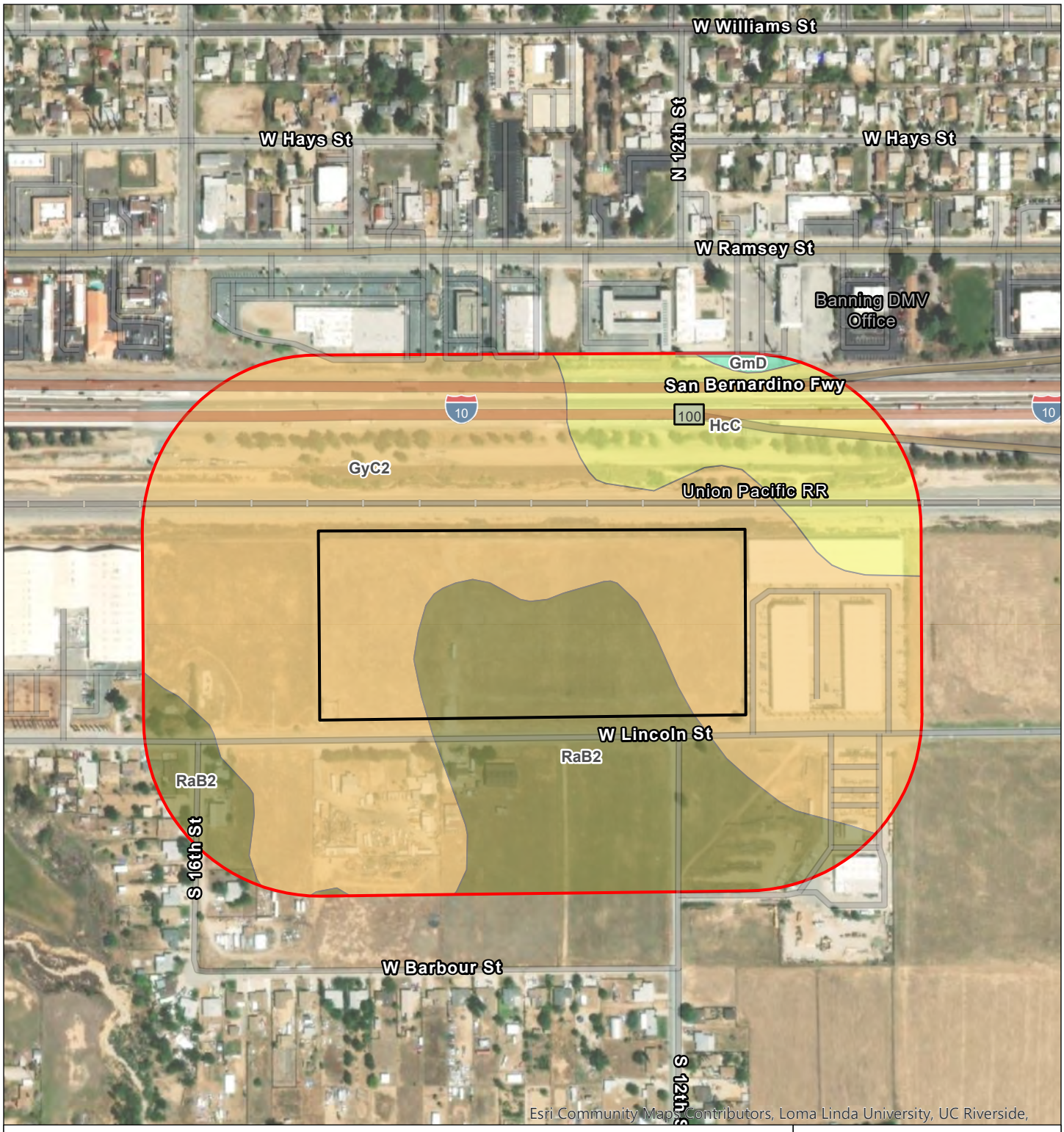



Figure 5. Vegetation Communities and Land Cover Types




Figure 6. RCA MSHCP Vegetation 2012




Project Site

Study Area

Soil Types

- GmD - Gorgonio gravelly loamy fine sand, 2 to 15 percent slopes
- GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded

0 200 400 Feet

1 inch = 400 feet

Data Sources:
- ESRI World Imagery 6/9/2020
- NRCS Web Soil Survey accessed Apr 2023

Map Prepared: 4-19-23

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 7. Soils Map

## Special-Status Species Occurrences

| Map Code | Common Name *(Scientific Name)* |
|---|---|
| **Plants** | |
| P1 | California satintail — *Imperata brevifolia* |
| P2 | chaparral sand-verbena — *Abronia villosa var. aurita* |
| P3 | Coachella Valley milk-vetch — *Astragalus lentiginosus var. coachellae* |
| P4 | Coulter's goldfields — *Lasthenia glabrata ssp. coulteri* |
| P5 | Desert Fan Palm Oasis Woodland — *Desert Fan Palm Oasis Woodland* |
| P6 | Horn's milk-vetch — *Astragalus hornii var. hornii* |
| P7 | Jaeger's milk-vetch — *Astragalus pachypus var. jaegeri* |
| P8 | Laguna Mountains jewelflower — *Streptanthus bernardinus* |
| P9 | Latimer's woodland-gilia — *Saltugilia latimeri* |
| P10 | mesa horkelia — *Horkelia cuneata var. puberula* |
| P11 | Mojave tarplant — *Deinandra mohavensis* |
| P12 | mud nama — *Nama stenocarpa* |
| P13 | narrow-leaf sandpaper-plant — *Petalonyx linearis* |
| P14 | Palmer's mariposa-lily — *Calochortus palmeri var. palmeri* |
| P15 | Parish's alumroot — *Heuchera parishii* |
| P16 | Parry's spineflower — *Chorizanthe parryi var. parryi* |
| P17 | Payson's jewelflower — *Caulanthus simulans* |
| P18 | Plummer's mariposa-lily — *Calochortus plummerae* |
| P19 | salt spring checkerbloom — *Sidalcea neomexicana* |
| P20 | San Bernardino aster — *Symphyotrichum defoliatum* |
| P21 | San Bernardino gilia — *Gilia leptantha ssp. leptantha* |
| P22 | San Felipe monardella — *Monardella nana ssp. leptosiphon* |
| P23 | San Jacinto Valley crownscale — *Atriplex coronata var. notatior* |
| P24 | Santa Ana River woollystar — *Eriastrum densifolium ssp. sanctorum* |
| P25 | smooth tarplant — *Centromadia pungens ssp. laevis* |
| P26 | Southern Coast Live Oak Riparian Forest — *Southern Coast Live Oak Riparian Forest* |
| P27 | Southern Cottonwood Willow Riparian Forest — *Southern Cottonwood Willow Riparian Forest* |
| P28 | Southern Mixed Riparian Forest — *Southern Mixed Riparian Forest* |
| P29 | spiny-hair blazing star — *Mentzelia tricuspis* |
| P30 | white-bracted spineflower — *Chorizanthe xanti var. leucotheca* |
| P31 | white rabbit-tobacco — *Pseudognaphalium leucocephalum* |
| P32 | Yucaipa onion — *Allium marvinii* |
| **Invertebrates** | |
| I1 | Coachella Valley jerusalem cricket — *Stenopelmatus cahuilaensis* |
| I2 | Crotch bumble bee — *Bombus crotchii* |
| I3 | Dohrn's elegant eucnemid beetle — *Palaeoxenus dohrni* |
| **Mammals** | |
| M1 | American badger — *Taxidea taxus* |
| M2 | Dulzura pocket mouse — *Chaetodipus californicus femoralis* |
| M3 | Los Angeles pocket mouse — *Perognathus longimembris brevinasus* |
| M4 | northwestern San Diego pocket mouse — *Chaetodipus fallax fallax* |
| M5 | pallid bat — *Antrozous pallidus* |
| M6 | pallid San Diego pocket mouse — *Chaetodipus fallax pallidus* |
| M7 | Palm Springs pocket mouse — *Perognathus longimembris bangsi* |
| M8 | Palm Springs round-tailed ground squirrel — *Xerospermophilus tereticaudus chlorus* |
| M9 | San Bernardino kangaroo rat — *Dipodomys merriami parvus* |
| M10 | San Diego black-tailed jackrabbit — *Lepus californicus bennettii* |
| M11 | San Diego desert woodrat — *Neotoma lepida intermedia* |
| M12 | southern grasshopper mouse — *Onychomys torridus ramona* |
| M13 | Stephens' kangaroo rat — *Dipodomys stephensi* |
| M14 | Townsend's big-eared bat — *Corynorhinus townsendii* |
| M15 | western yellow bat — *Lasiurus xanthinus* |
| **Birds** | |
| B1 | burrowing owl — *Athene cunicularia* |
| B2 | California horned lark — *Eremophila alpestris actia* |
| B3 | coastal cactus wren — *Campylorhynchus brunneicapillus sandiegensis* |
| B4 | coastal California gnatcatcher — *Polioptila californica californica* |
| B5 | Cooper's hawk — *Accipiter cooperii* |
| B6 | ferruginous hawk — *Buteo regalis* |
| B7 | golden eagle — *Aquila chrysaetos* |
| B8 | Le Conte's thrasher — *Toxostoma lecontei* |
| B9 | least Bell's vireo — *Vireo bellii pusillus* |
| B10 | loggerhead shrike — *Lanius ludovicianus* |
| B11 | prairie falcon — *Falco mexicanus* |
| B12 | purple martin — *Progne subis* |
| B13 | southern California rufous-crowned sparrow — *Aimophila ruficeps canescens* |
| B14 | southwestern willow flycatcher — *Empidonax traillii extimus* |
| B15 | tricolored blackbird — *Agelaius tricolor* |
| B16 | western yellow-billed cuckoo — *Coccyzus americanus occidentalis* |
| B17 | white-tailed kite — *Elanus leucurus* |
| B18 | yellow warbler — *Setophaga petechia* |
| **Reptiles** | |
| R1 | California glossy snake — *Arizona elegans occidentalis* |
| R2 | Coachella Valley fringe-toed lizard — *Uma inornata* |
| R3 | coast horned lizard — *Phrynosoma blainvillii* |
| R4 | coastal whiptail — *Aspidoscelis tigris stejnegeri* |
| R5 | orange-throated whiptail — *Aspidoscelis hyperythra* |
| R6 | red-diamond rattlesnake — *Crotalus ruber* |
| R7 | Southern California legless lizard — *Anniella stebbinsi* |
| R8 | southern rubber boa — *Charina umbratica* |
| **Amphibians** | |
| A1 | southern mountain yellow-legged frog — *Rana muscosa* |
| A2 | western spadefoot — *Spea hammondii* |

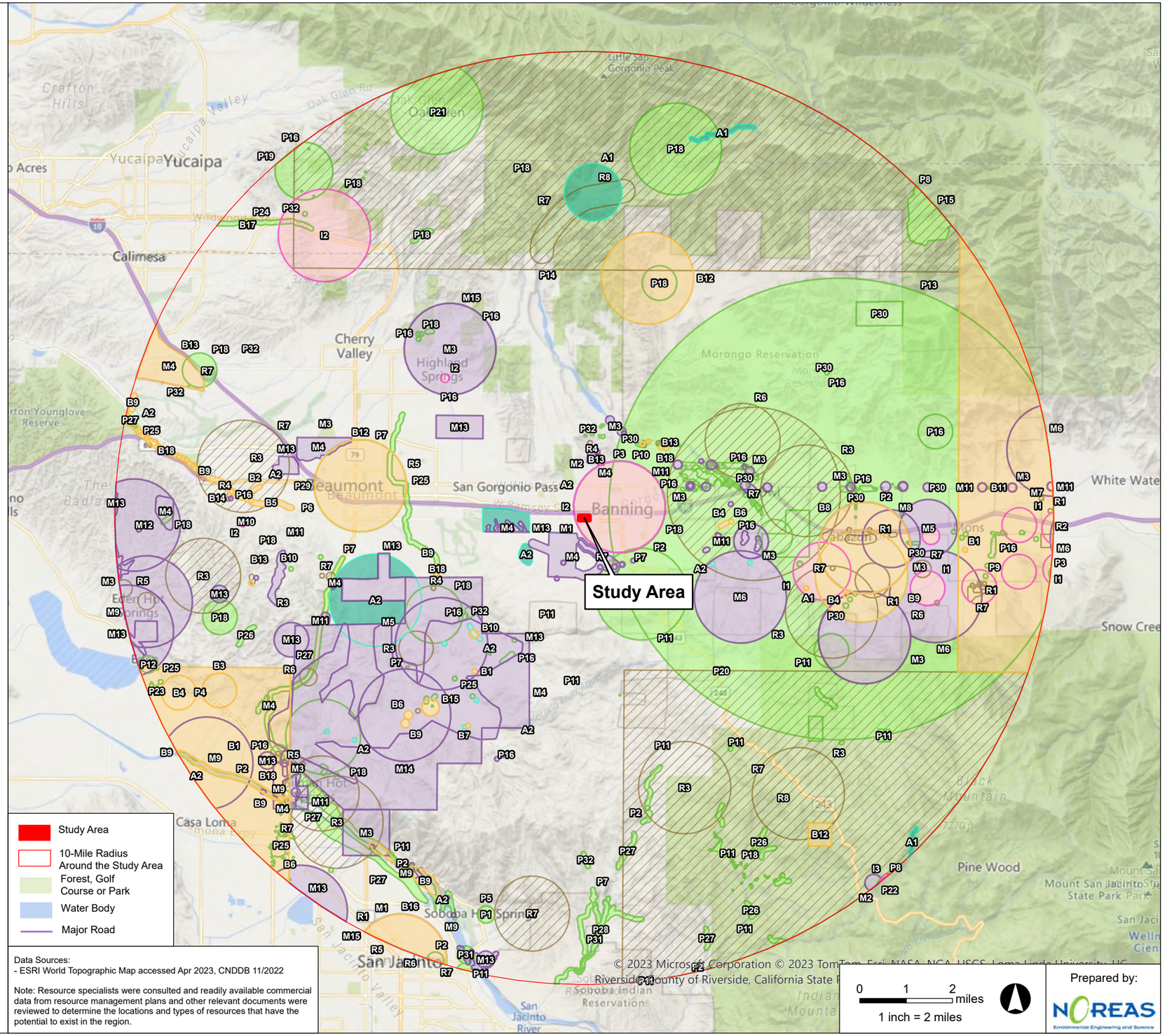



Figure 8. Literature Review

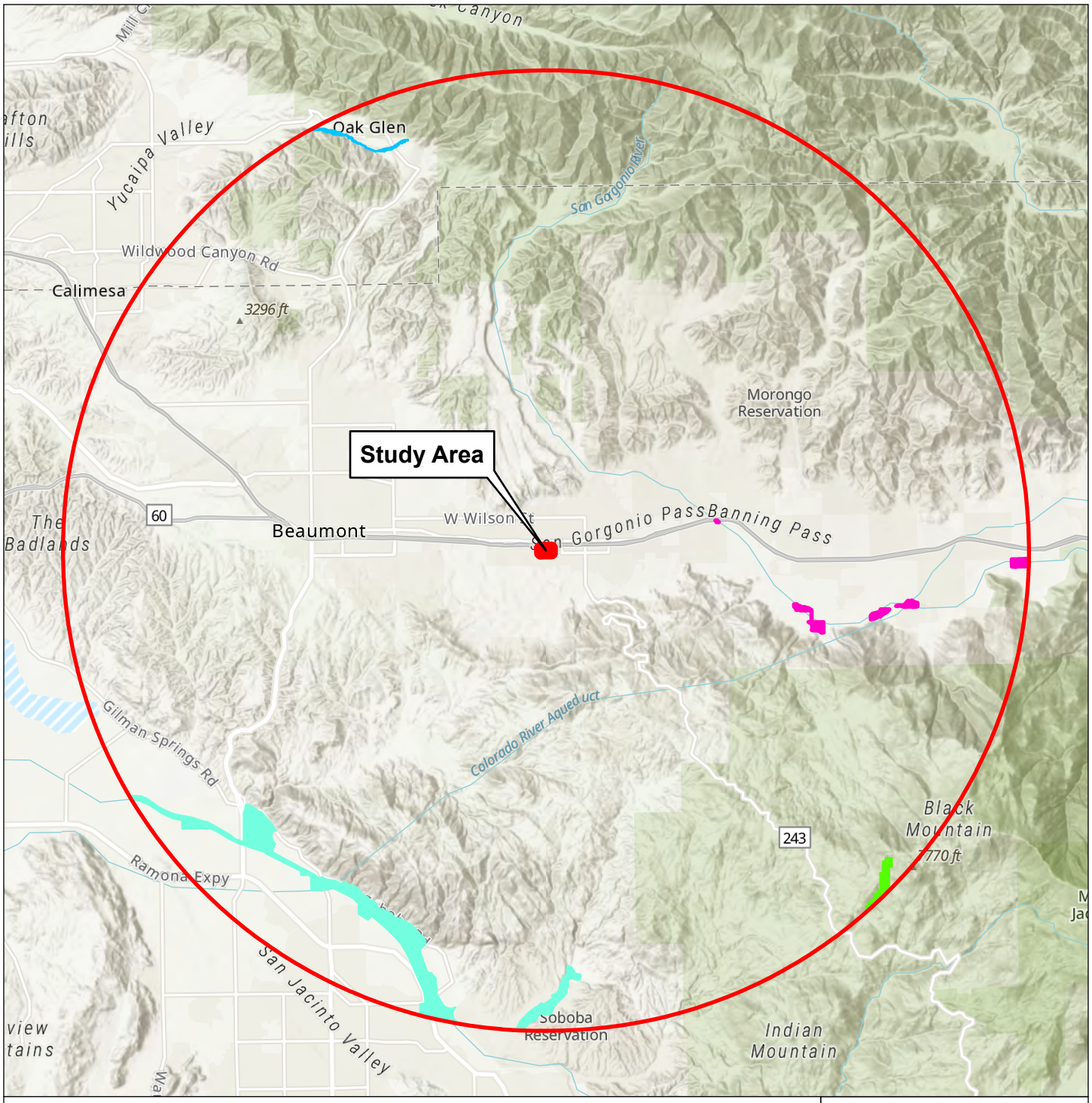



Figure 9. Critical Habitat

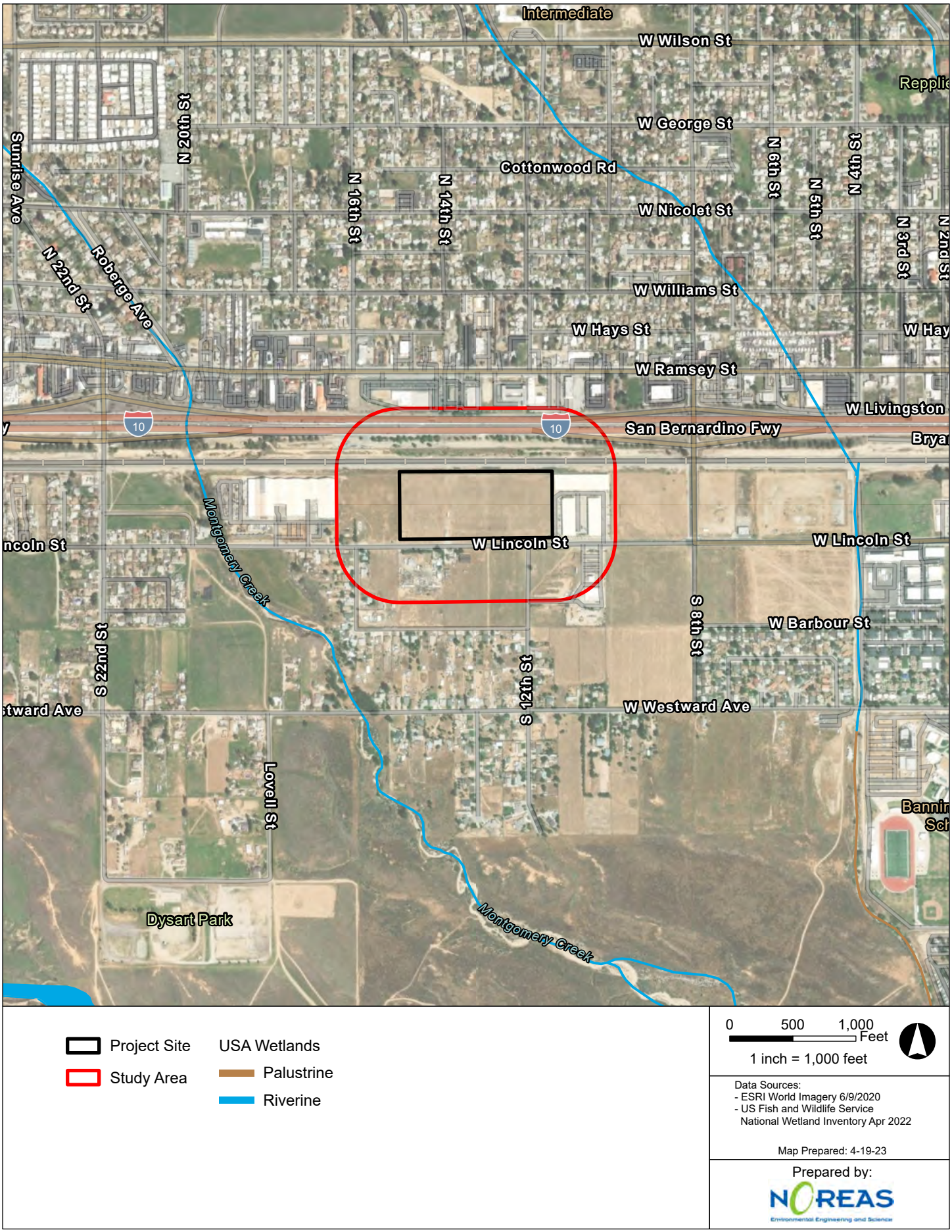



Figure 10. National Wetland Inventory

# APPENDICES

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## Appendix A Site Plan

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# CONCEPTUAL SITEPLAN

## BROWN STRAUSS STEEL / BANNING CALIFORNIA

## 1210 & 1431 WEST LINCOLN STREET

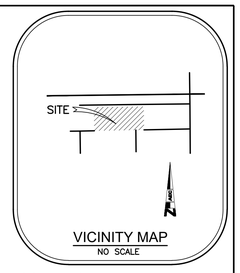
LEGEND

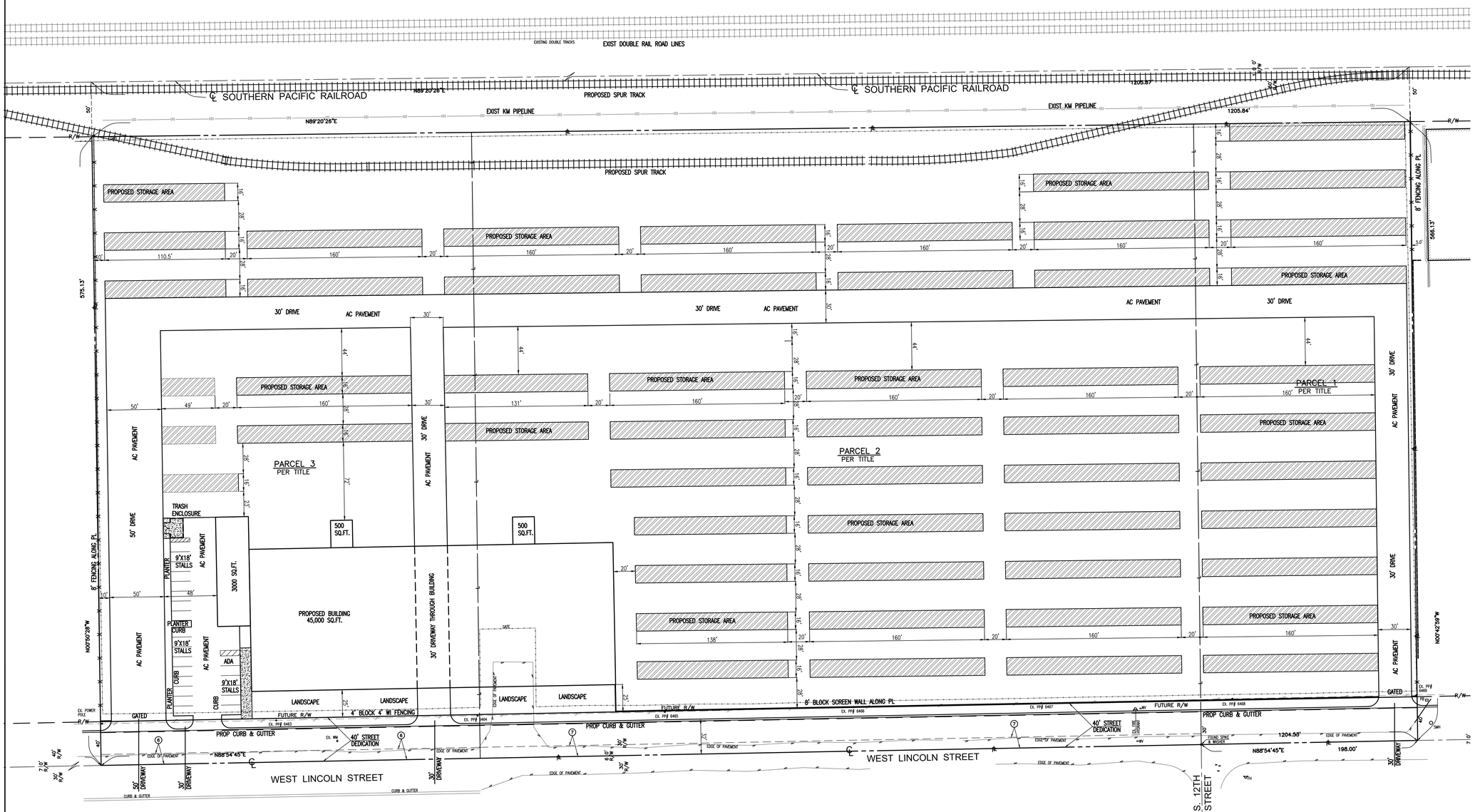
| | | | |
|---|---|---|---|
| FIRE HYDRANT | AC | — | ASPHALT PAVEMENT |
| EDGE PAVEMENT | EG | — | EDGE OF GUTTER |
| WATER VALVE | EP | — | EDGE OF PAVEMENT |
| METER, PULL BOX | FC | — | FINISHED CONCRETE |
| SIGN | FL | — | FLOW LINE |
| CONCRETE | FH | — | FIRE HYDRANT |
| BLOCK WALL | GM | — | GAS METER |
| LIGHT STANDARD | GP | — | GUARD POST |
| TRAFFIC SIGNAL | L | — | LOT LINE |
| STREET LIGHT | NG | — | NATURAL GROUND |
| WROUGHT IRON FENCE | PB | — | PULL BOX |
| WOOD FENCE | PL | — | PROPERTY LINE |
| EX. CHAINLINK FENCE | EX. PP | — | POWER POLE |
| | R/W | — | RIGHT OF WAY |
| | SMH | — | SEWER MANHOLE |
| | TC | — | TOP OF CURB |
| | EX. WM | — | WATER METER |
| | WV | — | WATER VALVE |

GRAPHIC SCALE

40 30 20 10 0 20 40 80 120

( IN FEET )
1 INCH = 40 FT.




## LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED BANNING IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1:

THE WESTERLY 198.00 FEET OF BLOCK 273 OF LANDS OF THE BANNING LAND COMPANY, IN THE CITY OF BANNING, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9, PAGE 44 OF MAPS, SAN BERNARDINO COUNTY RECORDS.

EXCEPT THAT PORTION IN THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD COMPANY, ACQUIRED BY UNITED STATES CONGRESSIONAL GRANT.

PARCEL 2:

BLOCK 274 OF LANDS OF THE BANNING LAND COMPANY, IN THE CITY OF BANNING, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9, PAGE 44 OF MAPS, SAN BERNARDINO COUNTY RECORDS.

EXCEPT THAT PORTION IN THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD COMPANY, ACQUIRED BY UNITED STATES CONGRESSIONAL GRANT.

PARCEL 3:

THE EAST ONE-HALF LOT OF 285 IN BANNING, AS SHOWN BY A CERTAIN MAP ENTITLED 'AMENDED MAP OF BANNING LAND CO., AS PER MAP RECORDED IN BOOK 9, PAGE 44 OF MAPS, RECORDS OF SAN BERNARDINO, CALIFORNIA.

EXCEPTING THEREFROM THAT PORTION IN THE RIGHT OF WAY ACQUIRED BY THE UNITED STATES CONGRESSIONAL GRANT.

APN: 540-180-020, 540-180-022, AND 540-180-026

## BROWN STRAUSS STEEL

LOT SIZE: 15.3787 AC / 687,683 SF
EXISTING IMPERVIOUS AREA: 0 SF
PROPOSED USE: BROWN STRAUSS STEEL
PROPOSED BUILDINGS: 44,00 SF
PROPOSED PAVEMENT:
PROPOSED STEEL STORAGE:
TOTAL SITE IMPREVIOUS:
OPEN SPACE:
TOTAL SITE
STORM WATER TREATMENT:

## BASIS OF BEARINGS

THE BASIS OF BEARINGS USED ON THIS SURVEY IS THE CENTERLINE OF WEST LINCOLN STREET BEARING NORTH 88°54'45" EAST AS SHOWN ON RECORD OF SURVEY BOOK 122 PAGE 60 RECORDS OF SAID COUNTY.

## GENERAL NOTES

1. SURVEYOR HAS RELIED UPON INFORMATION SUPPLIED IN THE CURRENT TITLE REPORT BY FIDELITY NATIONAL TITLE COMPANY REPORT NO. 011-30090448-BAM DATED JULY 26, 2022 TO DISCLOSE RECORD EASEMENTS THAT BURDEN OR BENEFIT THIS PROPERTY.
2. ASSESSORS PARCEL NUMBERS FOR THIS PROPERTY ARE 540-180-020, 540-180-022 AND 540-180-026.
3. THE SURVEYED PROPERTY IS A VACANT LOT. THERE WERE ZERO (0) EXISTING BUILDINGS AT TIME OF FIELD SURVEY.
4. THIS PLAN AND/OR DATA FILES INCLUDING ALL CONTENTS HEREIN ARE FOR THE SOLE USES AND PARTIES INDICATED HEREON INCLUDING THEIR SUCCESSORS AND ASSIGNS. ANY DEVIATION OR MISUSES OF THIS PLAN AND/OR DATA FILES WITHOUT PRIOR WRITTEN AGREEMENTS BY ANACAL ENGINEERING IS PROHIBITED AND IS THE RESPONSIBILITY OF THE PARTIES USING SAID DRAWING AND/OR DATA FILES, UPON THE REUSE OF THIS PLAN AND/OR DATA FILES ANACAL ENGINEERING RELINQUISHES ALL RESPONSIBILITIES OF THE ACCURACY AND GENERAL CONTENT OF SAID PLAN AND/OR DATA FILES CONTAINED HEREIN.

## UTILITIES INFORMATION

ELECTRICITY
CITY OF BANNING
P.O. BOX 985
BANNING, CA 92220
(951) 922-3185

GAS
SOUTHERN CALIFORNIA GAS COMPANY
60 E. RAMSEY STREET
BANNING, CA 92220
(800) 427-2200

WASTE DISPOSAL
WASTE MANAGEMENT
(800) 423-9986

SEWER AND WATER SERVICES
CITY OF BANNING
P.O. BOX 985
BANNING, CA 92220
(951) 922-3185

THE EXISTENCE AND APPROXIMATE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS WERE DETERMINED BY A SEARCH OF THE AVAILABLE PUBLIC RECORDS AND ABOVE GROUND OBSERVANCE. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE/SHE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

## FLOOD ZONE INFORMATION

ZONE: 'X'
AREA OF MINIMAL FLOOD HAZARD

PANEL NO. 06065C 0817G

DATED: AUGUST 28, 2008

NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE AND AN ELEVATION CERTIFICATE MAY BE NEEDED TO VERIFY THIS DETERMINATION OR AEX. PPLY FOR VARIANCE FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

## EASEMENT NOTES

THE FOLLOWING ITEMS WERE FOUND IN TITLE REPORT NO. 011-30090448-BAM DATED JULY 26, 2022 BY FIDELITY NATIONAL TITLE COMPANY:

(3) COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS BUT OMITTING ANY COVENANTS OR RESTRICTIONS, AS SET FORTH IN THE DOCUMENT RECORDED IN BOOK 37, PAGE 234, DEEDS. THE EXACT LOCATION AND EXTENT OF SAID EASEMENT IS NOT DISCLOSED OF RECORD AND IS NOT PLOTTED HEREON.

(4) AN EASEMENT FOR INGRESS, EGRESS, CONSTRUCTION AND MAINTENANCE OF IRRIGATION DITCHES, PIPES OR FLUMES PURPOSES TO BANNING LAND COMPANY AND BANNING WATER COMPANY. THE EXACT LOCATION AND EXTENT OF SAID EASEMENT IS NOT DISCLOSED OF RECORD AND IS NOT PLOTTED HEREON.

(5) AN EASEMENT FOR DITCHES, PIPES OR FLUMES PURPOSES TO BANNING LAND COMPANY AND BANNING WATER COMPANY. RECORDED FEBRUARY 19, 1889 IN BOOK 92, PAGE 175, DEEDS. THE EXACT LOCATION AND EXTENT OF SAID EASEMENT IS NOT DISCLOSED OF RECORD AND IS NOT PLOTTED HEREON.

(6) AN EASEMENT FOR UTILITIES PURPOSES TO CITY OF BANNING, RECORDED MAY 12, 1958 AS INSTRUMENT NO. 34017, OFFICIAL RECORDS. EASEMENT LIES WITHIN SURVEYED PROPERTY AND IS PLOTTED HEREON.

(7) AN EASEMENT FOR TELEPHONE LINES, CONSISTING OF POLES, NECESSARY GUYS AND ANCHORS PURPOSES TO CITY OF BANNING, RECORDED MAY 12, 1958 AS INSTRUMENT NO. 34023, OFFICIAL RECORDS. EASEMENT LIES WITHIN SURVEYED PROPERTY AND IS PLOTTED HEREON.

(8) AN EASEMENT FOR PIPE LINES AND CONDUITS PURPOSES TO THE CITY OF BANNING, RECORDED JULY 7, 1958 AS INSTRUMENT NO. 48052, OFFICIAL RECORDS. THE EXACT LOCATION AND EXTENT OF SAID EASEMENT IS NOT DISCLOSED OF RECORD AND IS NOT PLOTTED HEREON.

## SITE PLAN KEY NOTES

1 – STORAGE RACKS
2 – PROPOSED RAILROAD SPUR TRACK
3 – FUEL STORAGE AREA
4 – PROPOSED CHAIN LINK FENCING
5 – PROPOSE AC PAVEMENT / HEAVY-TRUCKS
6 – PROPOSED AC PAVEMENT / LIGHT-AUTOS
7 – PROPOSED AC / FORKLIFT PAVEMENT SECTION
8 – PROPOSED 30' DRIVEWAY
9 – PROPOSED 24' DRIVEWAY
10 – PROPOSED CONCRETE WALK
11 – PROPOSED PUBLIC STREET-AC/CURB & GUTTER, SIDEWALK
12 – PROPOSED MONUMENT SIGN
13 – PROPOSED SITE SIGNAGE


ANACAL ENGINEERING COMPANY
CIVIL ENGINEERING & LAND SURVEYING
1211 NORTH TUSTIN AVENUE ~ ANAHEIM, CALIFORNIA 92807
PHONE: (714) 774-1763 FAX: (714) 774-4690
E-MAIL ADDRESS: anacal@anacalengineering.com
WEB SITE: anacalengineering.com


9/6/22 | 1" = 40' | G. A. G. | D. C. Q.

CONCEPTUAL SITEPLAN
1210 & 1431 WEST LINCOLN STREET
BANNING, CALIFORNIA

JOB NO. 22-130C-SP

# Appendix B Plant Species Observed Within the Study Area

| Scientific Name | Common Name |
|---|---|
| ***Asteraceae (Aster family)*** | |
| *Ambrosia dumosa* | Western ragweed |
| *Baccharis neglecta* | Roosevelt weed |
| *Baccharis sarothroides* | Desert broom |
| *Gnaphalium spp.** | Cudweed |
| *Lactuca serriola ** | Prickly lettuce |
| *Lasthenia gracilis** | Needle goldfields |
| *Matricaria discoidea** | Pineapple weed |
| *Oncosiphon piluliferum** | Stinknet |
| *Symphyotrichum chilense* | California aster |
| ***Anacardiaceae* (Cashew family)** | |
| *Schinus molle** | Peruvian pepper |
| *Arecaceae (Palm family)* | |
| *Syagrus romanzoffiana* | Queen palm |
| *Washingtonia Robusta** | Mexican fan palm |
| *Boraginaceae (Forget-me-not family)* | |
| *Amsinckia menziesii* | Fiddleneck |
| ***Brassicaceae (Mustard family)*** | |
| *Brassica nigra** | Black mustard |
| *Brassica Tournefortii** | Sahara mustard |
| *Pectocarya heterocarpa* | Chuckwalla combseed |
| *Plagiobothrys nothofulvus* | Rusty popocornflower |
| *Sisymbrium irio ** | London rocket |
| ***Cupressaceae (Cypress family)*** | |
| *Juniperus horizontalis** | Creeping juniper |
| ***Euphorbiaceae (Spurge family)*** | |
| *Croton setigerus** | Dove weed |
| ***Geraniaceae (Geranium family)*** | |
| *Erodium cicutarium** | Redstem stork's bill |
| *Fabaceae (Pea family)* | |
| *Lupinus bicolor* | Miniature lupine |
| *Medicago polymorpha ** | Burr medic |
| *Parkinsonia florida* | Blue palo verde |
| ***Malvaceae (Mallow family)*** | |
| *Malva parviflora** | Cheeseweed |
| ***Pinaceae (Pine family)*** | |

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| Scientific Name | Common Name |
|---|---|
| *Pinus sp.** | Pine |
| ***Polemoniaceae (Phlox family)*** | |
| *Gilia spp.* | Gilia species |
| ***Poaceae (Grass family)*** | |
| *Avena fatua ** | Wild oat |
| *Bromus diandrus ** | Ripgut brome |
| *Bromus madritensis subsp. Rubens ** | Red brome |
| *Festuca arundinacea ** | Tall fescue |
| *Festuca myuros ** | Annual fescue |
| *Hordeum murinum ** | Wall barley |
| *Poa bulbosa ** | Bulbous bluegrass |

Nomenclature follows the Jepson Manual, Second Edition (Baldwin et al 2011).
* = naturalized, non- native plant species.

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# Appendix C Wildlife Species Observed Within the Study Area

| Scientific name | Common name |
|---|---|
| **Birds** | |
| *Agelaius phoeniceus* | Red-winged blackbird |
| *Accipiter cooperii* | Cooper's hawk |
| *Buteo jamaicensis* | Red-Tailed hawk |
| *Cathartes aura* | Turkey vulture |
| *Corvus corax* | Common Raven |
| *Calypte anna* | Anna's hummingbird |
| *Corvus brachyrhynchos* | American crow |
| *Sturnus vulgaris* | European Starling |
| *Carpodacus mexicanus* | House Finch |
| *Charadrius vociferus* | Killdeer |
| *Hirundo rustica* | Barn swallow |
| *Sturnella neglecta* | Western Meadowlark |
| *Passerculus sandwichensis* | Savanna sparrow |
| *Petrochelidon pyrrhonota* | Cliff swallow |
| *Columba livia* | Rock Pigeon |
| *Euphagus cyanocephalus* | Brewer's Blackbird |
| *Zonotrichia leucophrys* | White-crowned sparrow |
| *Falco sparverius* | American kestrel |
| *Mimus polyglottos* | Northern mockingbird |
| *Sayornis saya* | Say's phoebe |
| *Melospiza melodia* | Song sparrow |
| *Passer domesticus* | House Sparrow |
| *Sayornis nigricans* | Black phoebe |
| *Spinus psaltria* | Lesser goldfinch |
| *Sturnella neglecta* | Western meadowlark |
| *Tyrannus vociferans* | Cassin's kingbird |
| *Quiscalus quiscula* | Common Grackle |
| *Zenaida macroura* | Mourning Dove |
| **Mammals** | |
| *Otospermophilus beecheyi* | California ground squirrel |
| *Sylvilagus audubonii* | Desert cottontail |

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# Appendix D Special-Status Species and Their Potential to Occur Within the Project Site

| Potential for occurrence | Common name (Scientific name) | Federal listing status | State listing status | CNPS list | Number of records within 10 miles | Year(s) sighted |
|---|---|---|---|---|---|---|
| A | Chaparral sand-verbena *(Abronia villosa var. aurita)* | None | None | 1B.1 | 8 | 1944-2014 |
| A | Coachella Valley milk-vetch *(Astragalus lentiginosus var. coachellae)* | Endangered | None | 1B.2 | 2 | 1904-1987 |
| A | Jaeger's milk-vetch *(Astragalus pachypus var. jaegeri)* | None | None | 1B.1 | 6 | 1897-1990 |
| A | Mesa horkelia *(Horkelia cuneata var. puberula)* | None | None | 1B.1 | 1 | 1921 |
| A | Plummer's mariposa-lily *(Calochortus plummerae)* | None | None | 4.2 | 20 | 1982-2010 |
| A | Western spadefoot *(Spea hammondii)* | None | None | - | 19 | 1923-2017 |
| A | American badger *(Taxidea taxus)* | None | None | - | 2 | 1893-1908 |
| A | Los Angeles pocket mouse *(Perognathus longimembris brevinasus)* | None | None | - | 28 | 1908-2017 |
| A | Crotch bumble bee *(Bombus crotchii)* | None | None | - | 4 | 1952-2020 |
| A | Northwestern San Diego pocket mouse *(Chaetodipus fallax fallax)* | None | None | - | 15 | 1993-2016 |
| A | Narrow-leaf sandpaper-plant *(Petalonyx linearis)* | None | None | 2B.3 | 1 | 1879-1879 |
| A | Payson's jewelflower *(Caulanthus simulans)* | None | None | 4.2 | 1 | 1968-1968 |
| A | Southern California legless lizard *(Anniella stebbinsi)* | None | None | - | 13 | 1893-2018 |
| A | Stephens' kangaroo rat *(Dipodomys stephensi)* | Threatened | Threatened | - | 16 | 1963-2018 |
| A | Dulzura pocket mouse *(Chaetodipus californicus femoralis)* | None | None | - | 2 | 1993-1995 |
| A | Southern California rufous-crowned sparrow *(Aimophila ruficeps canescens)* | None | None | - | 7 | 2002-2017 |
| A | Coastal whiptail *(Aspidoscelis tigris stejnegeri)* | None | None | - | 4 | 2004-2016 |
| A | Yucaipa onion / Marvin's onion *(Allium marvinii)* | None | None | 1B.2 | 7 | 2005-2020 |
| A | White-bracted spineflower *(Chorizanthe xanti var. leucotheca)* | None | None | 1B.2 | 15 | 1994-2018 |
| A | Parry's spineflower *(Chorizanthe parryi var. parryi)* | None | None | 1B.1 | 23 | 1969-2018 |
| A | Mojave tarplant *(Deinandra mohavensis)* | None | Endangered | 1B.3 | 18 | 1994-2019 |
| A | San Diego desert woodrat *(Neotoma lepida intermedia)* | None | None | - | 12 | 1994-2017 |
| A | Yellow warbler *(Setophaga petechia)* | None | None | - | 4 | 2014-2016 |
| A | Pallid San Diego pocket mouse *(Chaetodipus fallax pallidus)* | None | None | - | 6 | 1938-2000 |
| A | Coastal California gnatcatcher *(Polioptila californica californica)* | Threatened | None | - | 5 | 1999-2016 |

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| Potential for occurrence | Common name (Scientific name) | Federal listing status | State listing status | CNPS list | Number of records within 10 miles | Year(s) sighted |
|---|---|---|---|---|---|---|
| A | Red-diamond rattlesnake *(Crotalus ruber)* | None | None | - | 5 | 1964-XXXX |
| A | Pallid bat *(Antrozous pallidus)* | None | None | - | 2 | 1964-2011 |
| A | Ferruginous hawk *(Buteo regalis)* | None | None | - | 3 | 1991-2016 |
| A | Smooth tarplant *(Centromadia pungens ssp. laevis)* | None | None | 1B.1 | 10 | 1999 |
| A | Least Bell's vireo *(Vireo bellii pusillus)* | Endangered | Endangered | - | 7 | 1908-2016 |
| A | Loggerhead shrike *(Lanius ludovicianus)* | None | None | - | 2 | 2003-2006 |
| A | Southern rubber boa *(Charina umbratica)* | None | Threatened | - | 16 | 1967-2020 |
| A | Western yellow bat *(Lasiurus xanthinus)* | None | None | - | 2 | 1988-1989 |
| A | Coast horned lizard *(Phrynosoma blainvillii)* | None | None | - | 14 | 1908-2006 |
| A | Horn's milk-vetch *(Astragalus hornii var. hornii)* | None | None | 1B.1 | 1 | 1889-1889 |
| A | Spiny-hair blazing star *(Mentzelia tricuspis)* | None | None | 2B.1 | 1 | 1886-1886 |
| A | Orange-throated whiptail *(Aspidoscelis hyperythra)* | None | None | - | 6 | 1912-1994 |
| A | Purple martin *(Progne subis)* | None | None | - | 3 | 1897-1984 |
| HP | Burrowing owl *(Athene cunicularia)* | None | None | - | 5 | 2005-2015 |
| A | San Bernardino aster *(Symphyotrichum defoliatum)* | None | None | 1B.2 | 1 | 1999 |
| A | Coachella Valley jerusalem cricket *(Stenopelmatus cahuilaensis)* | None | None | - | 4 | 2009 |
| A | Townsend's big-eared bat *(Corynorhinus townsendii)* | None | None | - | 1 | 1997 |
| A | Tricolored blackbird *(Agelaius tricolor)* | None | Threatened | - | 1 | 2015 |
| A | Palm Springs round-tailed ground squirrel *(Xerospermophilus tereticaudus chlorus)* | None | None | - | 1 | 1938 |
| A | Le Conte's thrasher *(Toxostoma lecontei)* | None | None | - | 1 | 1916 |
| A | Golden eagle *(Aquila chrysaetos)* | None | None | - | 1 | 2008 |
| A | Southern mountain yellow-legged frog *(Rana muscosa)* | Endangered | Endangered | - | 4 | 1908-2012 |
| A | Palmer's mariposa-lily *(Calochortus palmeri var. palmeri)* | None | None | 1B.2 | 1 | 2016 |
| A | Southern Cottonwood Willow Riparian Forest *(Southern Cottonwood Willow Riparian Forest)* | None | None | - | 10 | 1980-1991 |
| A | California glossy snake *(Arizona elegans occidentalis)* | None | None | - | 9 | 1893-2015 |
| A | Cooper's hawk *(Accipiter cooperii)* | None | None | - | 1 | 2004 |
| A | Southern Coast Live Oak Riparian Forest *(Southern Coast Live Oak Riparian Forest)* | None | None | - | 8 | 1980 |
| A | California horned lark *(Eremophila alpestris actia)* | None | None | - | 1 | 2003 |

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| Potential for occurrence | Common name (Scientific name) | Federal listing status | State listing status | CNPS list | Number of records within 10 miles | Year(s) sighted |
|---|---|---|---|---|---|---|
| A | San Diego black-tailed jackrabbit *(Lepus californicus bennettii)* | None | None | - | 3 | 2003-2004 |
| A | Southwestern willow flycatcher *(Empidonax traillii extimus)* | Endangered | Endangered | - | 2 | 2004 |
| A | Prairie falcon *(Falco mexicanus)* | None | None | - | 3 | 1977-1983 |
| A | Southern Mixed Riparian Forest *(Southern Mixed Riparian Forest)* | None | None | - | 1 | 1980 |
| A | White rabbit-tobacco *(Pseudognaphalium leucocephalum)* | None | None | 2B.2 | 2 | 2003-2004 |
| A | Coastal cactus wren *(Campylorhynchus brunneicapillus sandiegensis)* | None | None | - | 1 | 2001 |
| A | San Bernardino kangaroo rat *(Dipodomys merriami parvus)* | Endangered | Candidate Endangered | - | 8 | 1937-2015 |
| A | San Bernardino gilia *(Gilia leptantha ssp. leptantha)* | None | None | 1B.3 | 1 | 1931 |
| A | Santa Ana River woollystar *(Eriastrum densifolium ssp. sanctorum)* | Endangered | Endangered | 1B.1 | 1 | 1923 |
| A | California satintail *(Imperata brevifolia)* | None | None | 2B.1 | 1 | 1988 |
| A | Desert Fan Palm Oasis Woodland *(Desert Fan Palm Oasis Woodland)* | None | None | - | 1 | 1977 |
| A | Latimer's woodland-gilia *(Saltugilia latimeri)* | None | None | 1B.2 | 1 | 2015 |
| A | Southern grasshopper mouse *(Onychomys torridus ramona)* | None | None | - | 1 | 1938 |
| A | Salt spring checkerbloom *(Sidalcea neomexicana)* | None | None | 2B.2 | 1 | 1891 |
| A | Coulter's goldfields *(Lasthenia glabrata ssp. coulteri)* | None | None | 1B.1 | 2 | 2008-2010 |
| A | Laguna Mountains jewelflower *(Streptanthus bernardinus)* | None | None | 4.3 | 2 | 1982 |
| A | Parish's alumroot *(Heuchera parishii)* | None | None | 1B.3 | 1 | 1988 |
| A | Western yellow-billed cuckoo *(Coccyzus americanus occidentalis)* | Threatened | Endangered | - | 1 | 1893 |
| A | White-tailed kite *(Elanus leucurus)* | None | None | - | 1 | 2006 |
| A | Mud nama *(Nama stenocarpa)* | None | None | 2B.2 | 1 | 2010 |
| A | Coachella Valley fringe-toed lizard *(Uma inornata)* | Threatened | Endangered | - | 1 | 1975 |
| A | San Jacinto Valley crownscale *(Atriplex coronata var. notatior)* | Endangered | None | 1B.1 | 1 | 2004 |

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| Potential for occurrence | Common name (Scientific name) | Federal listing status | State listing status | CNPS list | Number of records within 10 miles | Year(s) sighted |
|---|---|---|---|---|---|---|
| A | Palm Springs pocket mouse *(Perognathus longimembris bangsi)* | None | None | - | 1 | 2017 |
| A | Dohrn's elegant eucnemid beetle *(Palaeoxenus dohrni)* | None | None | - | 1 | 2017 |
| A | San Felipe monardella *(Monardella nana ssp. leptosiphon)* | None | None | 1B.2 | 1 | 1969 |

CNPS List Definitions

List 1A: Plants presumed extinct in California

List 1B.1: Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California

List 1B.2: Plants rare, threatened, or endangered in California and elsewhere, fairly threatened in California

List 1B.3: Plants rare, threatened, or endangered in California and elsewhere, not very threatened in California

List 2.1: Plants rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California

List 2.2: Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California

Potential for Occurrence Definitions

Absent [A] – Species distribution is restricted by substantive habitat requirements, which do not occur – or are negligible within the Project Site, and no further survey or study is obligatory to determine likely presence or absence of this species.

Habitat Present [HP] – Species distribution is restricted by substantive habitat requirements, which occur within the Project Site, and further survey or study may be necessary to determine likely presence or absence of species.

Present [P] – Species or species sign were observed within the Project's permanent disturbance footprint, or historically has been documented within the Project Site

Critical Habitat [CH] – The Project Site is located within a USFWS-designated critical habitat unit

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# Appendix E Burrowing Owl Survey Report

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# BROWN AND STRAUSS INDUSTRIAL PROJECT

**July 2023**

## BURROWING OWL SURVEY

Beaumont United States Geological Survey
7.5-MinuteTopographic Quadrangle Map

**Prepared By**

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Environmental Engineering and Science

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## 1.0 SUMMARY / INTRODUCTION

Brown Strauss, Inc. (Brown and Strauss) is proposing to develop the Brown and Strauss Industrial Project (hereafter referred to as the Project). The Project Site is located within the City of Banning, Riverside County, California (Figures 1 and 2), north of West Lincoln Street and west of South 8th Street (Assessor's Parcel Numbers [APNs] 540-180-020, 540-180-022 and540-180-026). This report provides the methods, assumptions, and results of focused surveys for Burrowing Owl (*Athene cunicularia*). The Project Site can be found on the Beaumont United States Geological Survey (USGS) 7.5-MinuteTopographic Quadrangle Map (USGS 1984).

The Project occurs at an approximate elevation of 2,400 ft. above mean sea level (msl). Land use in the vicinity of the Project includes commercial, agriculture, residential and industrial endeavors. For the purposes of this report, the "study area" includes the Project's proposed ground disturbance footprint (Project Site), plus a 500-foot buffer where practical (Figures 1 and 2). The Project Site is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), Pass Area Plan. According to the Regional Conservation Authority (RCA) MSHCP Information Map, Project limits are within a Burrowing Owl study area. Agricultural and other commercial development activities were historically operated within Project limits. There is also evidence of recent disking throughout the Project Site.

No Burrowing Owls were detected nesting, foraging, or dispersing within the study area during the 2022 and 2023 surveys. Numerous – albeit low quality potential burrows, and burrow complexes were detected (Figure 3). The burrows observed lacked evidence of owl sign (i.e., tracks, molted feathers, cast pellets, prey remains, egg shell fragments, owl white wash, and nest burrow decoration materials). With that said, the lack of Burrowing Owls within the study area is likely a result of the depauperate landscape, and the presence of owl predators. Although the Project has potential to impact lands that could be utilized by Burrowing Owls as habitat, surveys for the species are negative. Therefore, there is no presumption that the Project would result in the loss of individual Burrowing Owls, or that it would adversely affect local - or regional populations, of them.

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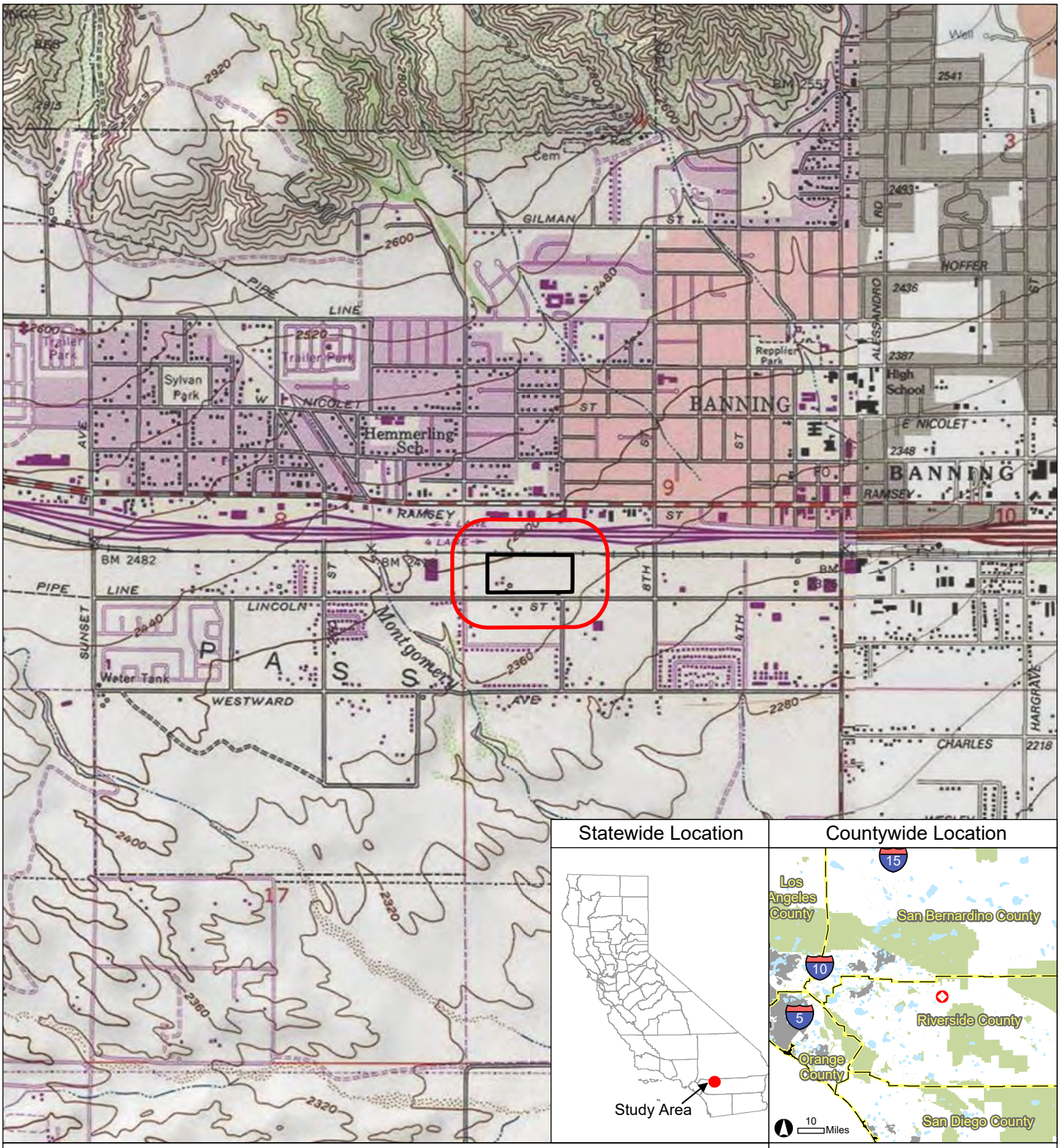


Figure 1. Regional Location




Project Site (14.77 acres)

Study Area (72.77 acres)

0 200 400 Feet

1 inch = 400 feet

Data Sources:
- ESRI World Imagery 6/9/2020

Map Prepared: 4-19-23

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 2. Site Vicinity

## 2.0 BURROWING OWL BACKGROUND

The Burrowing Owl has been designated by the California Department of Fish and Wildlife (CDFW) as a species of special concern. "State Species of Special Concern" status applies to animals not listed for protection under the federal Endangered Species Act or the California Endangered Species Act. The designation denotes that a species is declining at a rate that could result in State listing or that a species has historically occurred in low numbers and known threats to their persistence currently exist. The designation is intended to result in "special consideration" for these animals during the environmental review and discretionary permitting processes. In addition, the designation is also intended to focus research and management attention on poorly-known, potentially at-risk species by stimulating the collection of additional information on their biology, distribution, and status.

Burrowing Owls prefer open, dry annual or perennial grasslands, agricultural and rangelands, deserts, and scrublands characterized by low-growing vegetation. Burrowing Owls also prefer areas inhabited by small mammals as they predominately depend on mammal burrows (particularly ground squirrels) for subterranean nesting. Owls can be found at elevations ranging from 200 ft. below sea level to 9,000 ft. above (CDFG 1995). Burrowing Owls commonly perch on fence posts or on mounds outside their burrows. Northern populations of Burrowing Owls are usually migratory, while more southern populations may move short distances or not at all (Haug et al. 1993, Botelho 1996). Little is known about the winter ranges of migratory populations, although migratory Burrowing Owls are believed to mix with resident populations in California during the winter months (Coulombe 1971, Haug et al. 1993).

Burrowing Owls tend to be resident where food sources are stable and available year-round (Rosenberg et al. 1998). Typically, they disperse or migrate south in areas when food becomes seasonally scarce. Burrowing Owls tend to be opportunistic feeders. Large arthropods, mainly beetles and grasshoppers, comprise a substantial portion of their diet (Rosenberg et al. 1998). Small mammals, especially mice, rats, gophers, and ground squirrels, are also important food items. Other prey animals include reptiles and amphibians, scorpions, young cottontail rabbits, bats, and birds such as sparrows and Horned Larks. Consumption of insects increases during the breeding season. Burrowing Owls hover while hunting; after catching their prey they return to perches on fence posts or the ground. Burrowing Owls are primarily active at dusk and dawn, but, if necessary, will hunt at any time of day (CBOC 1993, CDFG 1995; Rosenberg et al. 1998).

The breeding season for Burrowing Owls is March to late August; the season tends to last later in the northern part of the range (CBOC 1993, CDFG 1995, Klute et al. 2003). Clutch size (number of birds hatched at the same time) ranges from 1 to 12 and averages about 7 (Ehrlich 1988). The incubation period is 28–30 days (Ehrlich 1988). The female performs all the incubation and brooding (sitting on eggs to hatch them by the warmth of the body) and is believed to remain continually in the burrow while the male does all the hunting (Rosenberg et al. 1998). The young fledge (take their first flight out of the nest) at 44 days but remain near the burrow and join the adults in foraging flights at dusk (Ehrlich 1988). The maximum life span recorded for a banded bird in the wild is approximately 8.5 years (Rosenberg et al. 1998).

In resident populations, nest site fidelity is common, with many adults nesting each year in their previous year's burrow; young from the previous year often establish nest sites near (<900 ft) their natal sites (Trulio 1997,Rosenberg et al. 1998). Burrowing Owls in migratory populations also often nest in the same burrow, particularly if the previous year's breeding was successful (Belthoff and King 1997). Other birds in the same population may move to burrows near their previous year's burrow. The species is

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threatened primarily by loss, degradation, and fragmentation of habitat, although they do readily inhabit anthropogenic landscapes such as agricultural fields, golf courses, and airport grasslands (Korfanta et al. 2005).

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## 3.0 METHODS

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans and relevant documents were reviewed to determine the locations and types of resources that have the potential to exist within and adjacent to the study area. Resources were evaluated within several miles of the Project. The materials reviewed included, but were not limited to, the following:

- U.S. Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2023a);
- USFWS Carlsbad Field Office Species List for Riverside County (USFWS 2023b);
- California Natural Diversity Database maintained by the CDFW (CDFW 2023);
- 1993 California Burrowing Owl Consortium (CBOC)Burrowing Owl Survey Protocol and Mitigation Guidelines;
- 2021 California Department of Fish and Game (CDFG) Staff Report on Burrowing Owl Mitigation;
- Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP 2003); and
- Aerial Photographs (Microsoft Corporation 2023).

A Burrowing Owl habitat suitability assessment and burrow survey was conducted on November 30, 2022 in accordance with the *March 29, 2006 Western Riverside County MSHCP Burrowing Owl Survey Instructions*. Natural and non-natural substrates were examined for potential burrow sites and complexes. Potential burrows encountered were examined for shape, size, molted feathers, whitewash, cast pellets and/or prey remains. Disturbance characteristics and other animal sign encountered within the study area were documented, to the greatest extent practical.

Since suitable habitat was observed for Burrowing Owls within the study area, four (4) additional surveys were performed (details are presented within *TABLE NO. 1 - SUMMARY OF SURVEY CONDITIONS FOR SURVEYS*). A hand-held, global positioning system (GPS) unit with sub meter accuracy was used to survey predetermined transects that were prepared within a Geographic Information System prior to the start of owl surveys (Figure 3). Survey transects were spaced at appropriate intervals to allow for complete visual coverage of the Project Site, and study area. Where necessary, transect spacing was reduced or expanded in the field - to account for differences in terrain, vegetation density, visibility, health and safety, and access (i.e., private property) considerations. Where access was limited, observations were made from the nearest appropriate vantage points by means of public rights-of-way with the use of binoculars and spotting scopes. The presence of a species was based on direct observations of individual(s), sign, and/or vocalization. Avian scientific nomenclature and common names follows Sibley (2000).

Field surveys were conducted when weather conditions were conducive to observing birds. Surveys were not performed during rain, extreme temperatures, high winds (> 25 miles per hour), or dense fog. Targeted owl surveys were conducted on 12 and 27 March, 05 and 25 April 2023. Surveys were performed from approximately 1 hour before sunrise to 2 hours after sunrise, and from approximately 2 hours before sunset to 1 hours after sunset - when weather conditions were conducive to observing owls outside of burrows.

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## 4.0 BURROWING OWL SURVEY RESULTS

The majority of the study area consists of heavily disturbed ruderal vegetation, with no substantial native stands of vegetation. Agricultural, commercial development, and residential activities were historically operated within Project limits. There is also evidence of recent disking, trash from illegal dumping throughout the Project Site, and an active railroad paralleling the Project's northern border.

No Burrowing Owls were observed nesting, foraging, or dispersing within the study area during the 2022 and 2023 surveys. Nonetheless, potential burrows and burrow complexes – albeit low quality, were detected (Figure 3). The burrows observed lacked evidence of owl tracks, molted feathers, cast pellets, prey remains, egg shell fragments, owl white wash, or nest burrow decoration materials. The presence of several burrows and burrow complexes >11 centimeters (cm) in diameter (height and width), and >150 cm in depth warranted recording and reporting; even though the aforementioned burrows lacked owl sign, or owls. Survey conditions during the field events are presented in Table No. 1.

**TABLE NO. 1 - SUMMARY OF SURVEY CONDITIONS FOR SURVEYS**

| Survey Dates | Surveyors | Survey Type | Time[1] Start/End | Temperature °Fahrenheit Start/End | Wind Speed (MPH) | Start/End Cloud Cover (%) | Date of last precipitation prior to survey |
|---|---|---|---|---|---|---|---|
| **11/30/22** | Lincoln Hulse | Burrow Survey and Crepuscular BUOW | 0700-1600 | 55/70 | 0-05 | Clear/Clear | 09/09/22 |
| **3/12/23** | Jill Coumoutso | Burrow Survey and Crepuscular BUOW | 0600-1100 | 52/63 | 0-05 | Cloudy/Cloudy | 03/01/22 |
| **3/27/23** | Jill Coumoutso | Crepuscular BUOW | 0530-1200 | 49/62 | 0-10 | Clear/Clear | 03/01/23 |
| **4/05/23** | Jill Coumoutso | Crepuscular BUOW | 0530-1200 | 50/68 | 0-05 | Clear/Clear | 03/01/23 |
| **4/25/23** | Jill Coumoutso | Crepuscular BUOW | 0530-1200 | 53/60 | 0-05 | Cloudy/Clear | 03/01/23 |
| **BUOW = Burrowing Owl**<br>**MPH = Miles Per Hour** | | | | | | | |

The lack of Burrowing Owls within the study area is likely a result of the depauperate landscape, active rail road paralleling the Project's northern boundary, and the presence of owl predators (e.g., Red-Tailed Hawk [*Buteo jamaicensis*] and Cooper's hawk [*Accipiter cooperii*]). Although the Project has potential to impact lands that could be utilized by Burrowing Owls as habitat – under the appropriate suite of environmental conditions, surveys for the species are negative. Therefore, there is no presumption that the Project would result in the loss of individual Burrowing Owls, or that it would adversely affect local - or regional, populations of them.

[1] While targeted owl surveys were limited to approximately 1 hour before sunrise to 2 hours after sunrise and 2 hours before sunset to 1 hour after sunset; the start and end times presented within this table details all time spent within the study area on any given day - which include setup, reporting and demobilization activities.

Representative photographs of the study area are provided below, and wildlife detected during the surveys are provided within Table No. 2.

| | |
|---|---|
|  | **Photograph 1.** Facing Southwest. |
|  | **Photograph 2.** Facing East. |

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| | |
|---|---|
|  | **Photograph 3.** Facing North. |
|  | **Photograph 4.** Potential burrow. |

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**TABLE NO. 2 – WILDLIFE DETECTED DURING FIELD SURVEYS**

| Scientific name | Common name |
|---|---|
| **Birds** | |
| *Agelaius phoeniceus* | Red-winged blackbird |
| *Accipiter cooperii* | Cooper's hawk |
| *Buteo jamaicensis* | Red-Tailed hawk |
| *Cathartes aura* | Turkey vulture |
| *Corvus corax* | Common Raven |
| *Calypte anna* | Anna's hummingbird |
| *Corvus brachyrhynchos* | American crow |
| *Sturnus vulgaris* | European Starling |
| *Carpodacus mexicanus* | House Finch |
| *Charadrius vociferus* | Killdeer |
| *Hirundo rustica* | Barn swallow |
| *Sturnella neglecta* | Western Meadowlark |
| *Passerculus sandwichensis* | Savanna sparrow |
| *Petrochelidon pyrrhonota* | Cliff swallow |
| *Columba livia* | Rock Pigeon |
| *Euphagus cyanocephalus* | Brewer's Blackbird |
| *Zonotrichia leucophrys* | White-crowned sparrow |
| *Falco sparverius* | American kestrel |
| *Mimus polyglottos* | Northern mockingbird |
| *Sayornis saya* | Say's phoebe |
| *Melospiza melodia* | Song sparrow |
| *Passer domesticus* | House Sparrow |
| *Sayornis nigricans* | Black phoebe |
| *Spinus psaltria* | Lesser goldfinch |
| *Sturnella neglecta* | Western meadowlark |
| *Tyrannus vociferans* | Cassin's kingbird |
| *Quiscalus quiscula* | Common Grackle |
| *Zenaida macroura* | Mourning Dove |
| **Mammals** | |
| *Otospermophilus beecheyi* | California ground squirrel |
| *Sylvilagus audubonii* | Desert cottontail |

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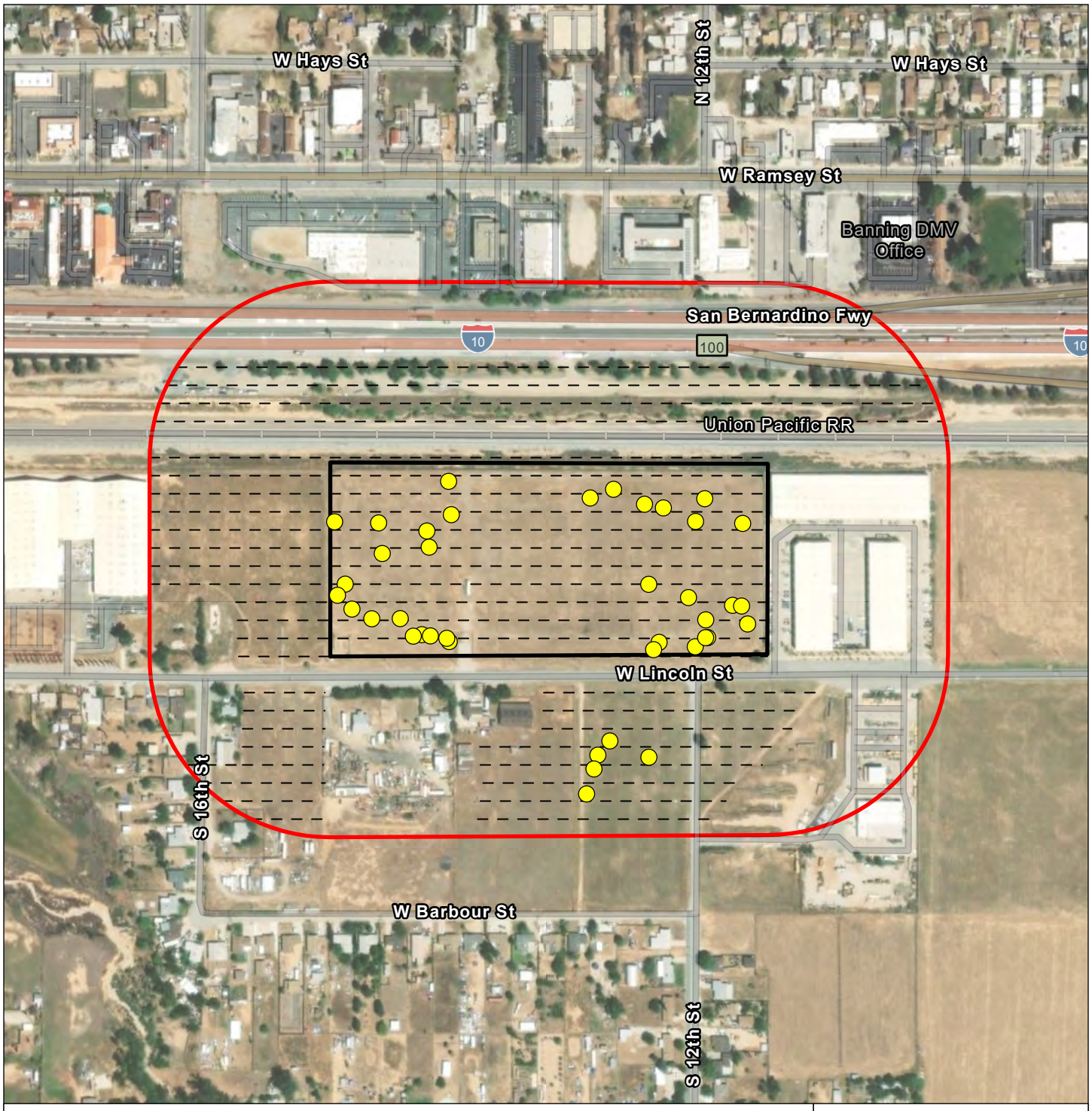


Project Site
Study Area
Burrowing Owl Survey Transects
Potential Burrow

0 200 400 Feet

1 inch = 400 feet

Data Sources:
-ESRI World Imagery 6/9/2020

Map Prepared: 7-5-23

Prepared by:
NOREAS
Environmental Engineering and Science

Figure 3. Burrowing Owl Survey Results

## 5.0 RECOMMENDED MEASURES TO AVOID AND MINIMIZED IMPACTS TO NESTING BIRDS

The following measures are recommended as a means of avoiding, and minimizing adverse impacts to nesting birds that have the potential to occur within the Project Site, and on adjacent lands:

- Due to the presence of potentially suitable habitat, a 30-day pre-construction survey for Burrowing Owls is warranted prior to initial ground-disturbing activities (including vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, grading, etc.). This is an MSHCP requirement, which safeguards that no owls have colonized the Project Site in the days - or weeks, preceding ground-disturbing activities.

    - If Burrowing Owls have colonized the Project Site prior to the initiation of ground-disturbing activities, the Project shall immediately inform the RCA and the appropriate wildlife agencies, to coordinate further regarding the need for a Project specific Burrowing Owl Protection and/or Relocation Plan.

    - If ground-disturbing activities occur, but the Project Site is left undisturbed for more than 30 days, a pre-construction survey will again be warranted to safeguard that Burrowing Owls have not colonized the Project Site since it was last disturbed. If Burrowing Owl is found, the same coordination described above would be necessary

- In order to comply with Section 10 of the Migratory Bird Treaty Act and relevant sections of the California Fish and Game Code, any vegetation clearing within the Project Site should take place outside of the typical avian nesting season (e.g., March 15$^{th}$ until September 1$^{st}$) – to the maximum extent practical. If work needs to take place between March 15$^{th}$ and September 1$^{st}$, a pre-activity survey for nesting birds would be warranted prior to the onset of Project activities. To the maximum extent practicable, a buffer zone from occupied nests should be maintained during physical ground disturbing activities. Once nesting has ended, the buffer may be removed.

- Limits of grading and construction activities shall be clearly delineated with temporary construction staking, flagging, or similar materials.

- To avoid attracting predators and nuisance species, the Project Site shall be clear of debris, where possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the Project.

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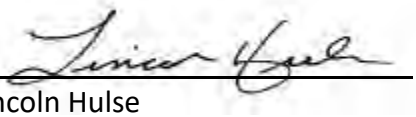
The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report. Opinions relating to presence, absence, or potential for occurrence of biological resources are based on limited data and actual conditions may vary from those encountered at the times and locations where the data were obtained despite due professional care.

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE: July 07, 2023

SIGNED: 

Lincoln Hulse

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# Appendix F Narrow Endemic Plant Survey Report

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# BROWN AND STRAUSS INDUSTRIAL PROJECT

**July 2023**

## NARROW ENDEMIC PLANT SURVEY REPORT

**Prepared By**

16361 Scientific Way, Irvine, CA 92618
*(949) 467-9100*

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PHOTOGRAPH LOG

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## 1.0 INTRODUCTION / SUMMARY

To support the Brown and Strauss Project (hereafter referred to as the Project), NOREAS Inc. (NOREAS) performed a focused Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), narrow endemic sensitive plant species visual encounter survey. According to the Regional Conservation Authority (RCA) MSHCP Information Map, the Project limits lie partially - or are completely within predetermined survey areas for narrow endemic sensitive plant species (i.e., Marvin's onion [*Allium marvinii*] and Many-stemmed dudleya [*Dudleya multicaulis*]).

The Project Site is located within the City of Banning, Riverside County, California (Figures 1 and 2); north of West Lincoln Street, and west of South 8th Street (Assessor's Parcel Numbers [APNs] 540-180-020, 540-180-022 and 540-180-026). The Project can be found on the Beaumont United States Geological Survey (USGS) 7.5-MinuteTopographic Quadrangle Map (USGS 1984). For the purposes of this report, the "Project Site" includes the Project's proposed ground disturbance footprint (Project Site). This report provides the methods, assumptions, and results of the 2023 targeted plant surveys for Marvin's onion and Many-stemmed dudleya.

In summary, Marvin's onion and Many-stemmed dudleya were not detected during the surveys. Given the extent of anthropogenic disturbance within the Project Site, the habitat quality is extremely low for special status plants. Therefore, there is no presumption that the Project would result in the loss of individual Marvin's onion and Many-stemmed dudleya, nor that it would adversely affect local or regional populations of them.

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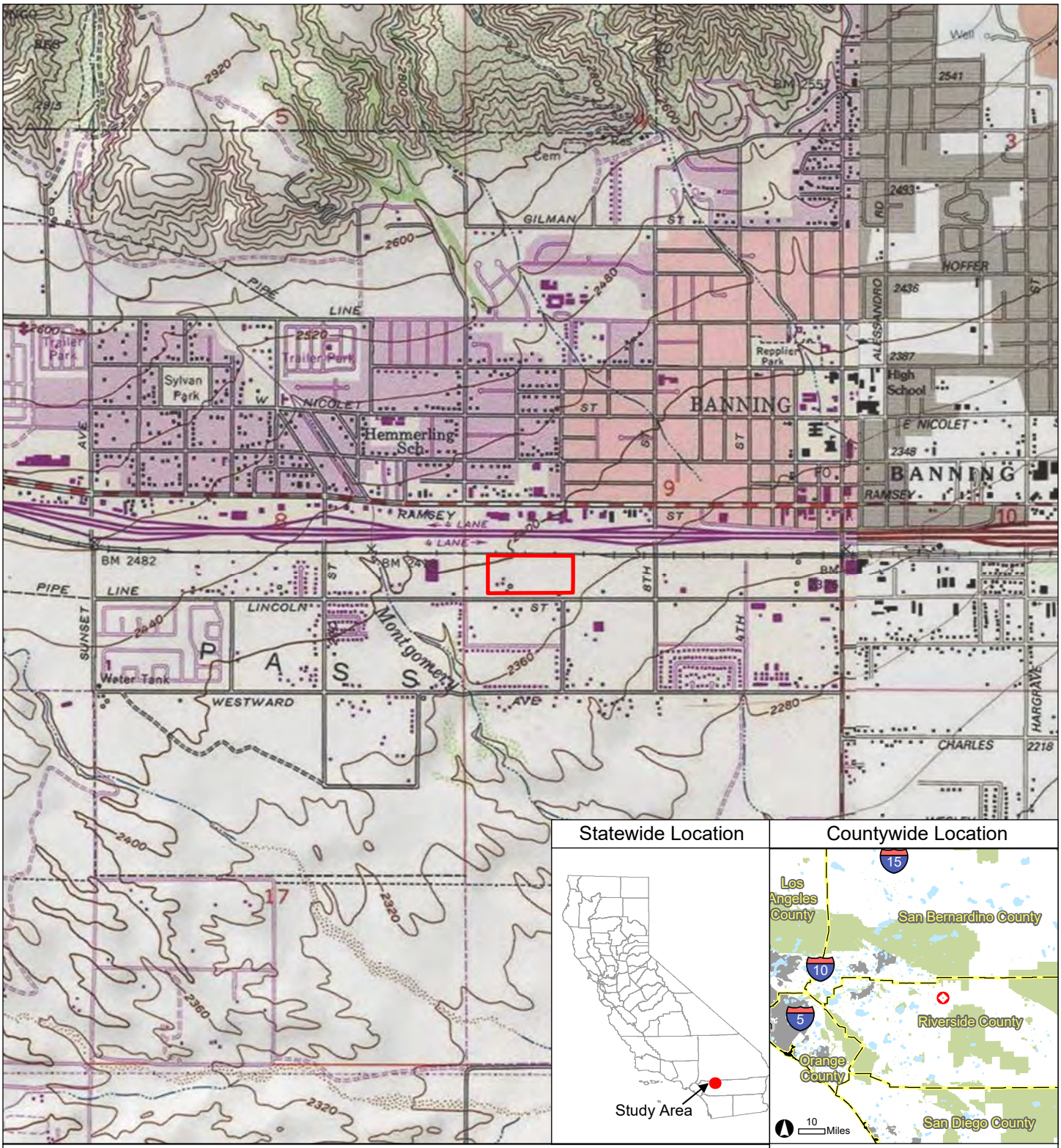


The Study Area is located in Riverside County on the Beaumont USGS 7.5-minute quadrangle map; San Bernardino Meridian, Township 3 South, Range 1 East, in Section 9
Center coordinate (WGS 1984): 116.891°W 33.923°N

Figure 1. Regional Location




Project Site (14.77 acres)

0 200 400 Feet

1 inch = 400 feet

Data Sources:
- ESRI World Imagery 6/9/2020

Map Prepared: 7-2-23

Prepared by:
NOREAS
Environmental Engineering and Science

Figure 2. Site Vicinity

## 2.0 METHODS

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans and relevant documents were reviewed to determine the locations and types of resources that have the potential to exist within and adjacent to the Project Site. Resources were evaluated within several miles of the Project. The primary materials reviewed included, but were not limited to, the following:

- ✓ US Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2023a);
- ✓ USFWS Riverside County Field Office Species List (USFWS 2023b);
- ✓ USFWS National Wetlands Inventory database (USFWS 2023c);
- ✓ California Natural Diversity Database maintained by the California Department of Fish and Wildlife (CDFW) (CDFW 2023);
- ✓ Natural Resource Conservation Service, Soil Survey Geographic Database (SSURGO) (USDA-NRCS 2023a);
- ✓ California Native Plant Society (CNPS) Electronic Inventory (CNPS 2023);
- ✓ MSHCP Transportation and Land Management Agency Geographic Information Services Database (GISD 2023);
- ✓ Regional Conservation Authority GIS Data Mapping Tool (RCA 2032, https://www.wrc-rca.org/rcamaps/);
- ✓ Western Riverside County Multiple Species Habitat Conservation Plan (Dudek 2003); and
- ✓ Aerial Photographs (Microsoft Corporation 2023).

Plants were identified to the lowest taxonomic[1] level sufficient to determine whether the species detected were non-native, native, or special-status. Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common species names were recorded according to The Jepson Manual (Baldwin et al. 2012).

Focused botanical surveys were conducted on 14 April and 17 May, 2023. Field survey methods were derived from the standardized guidelines issued by the U.S. Fish and Wildlife Service (USFWS 2000), California Department of Fish and Wildlife (CDFW 2009) and the California Native Plant Society (CNPS 2001). As previously stated, the field surveys were specifically conducted to determine the presence/absence of Marvin's onion and Many-stemmed dudleya, but the surveys were floristic[2] in nature. Surveys were conducted during the appropriate blooming period for Marvin's onion and Many-stemmed dudleya.

An evaluation of reference populations was performed prior to initiating surveys in early April of 2023 to safeguard that survey timing was appropriate[3], and to assess local variations in plant phenology[4] of the target species (Figure 3, Appendix A – Photographs 5 and 6). To that end, a targeted and methodical pedestrian-survey for Marvin's onion and Many-stemmed dudleya was conducted by walking through

[1] Botanical taxonomy is the practice and science of categorization or classification. A taxonomy (or taxonomical classification) is a scheme of classification, especially a hierarchical classification, in which plants are organized into groups or types.

[2] Focused on the distribution, number, types, and relationships of plant species in an area, or multiple areas.

[3] Prior to field surveys, a botanist visited a representative number of reference populations in 2023 to safeguard that survey timing was appropriate and to assess local variations in plant phenology. Reference populations were visited for both species that have a potential to occur.

[4] Phenology is the study of periodic events in biological life cycles and how these are influenced by seasonal and interannual variations in climate, as well as habitat factors.



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areas of suitable habitat within Project Site. Survey transects[5] were spaced to allow for complete visual coverage of the Project Site. Transect spacing was reduced or expanded in the field to account for differences in terrain, vegetation density, visual field, health and safety considerations, access issues, and areas of potential habitat to provide adequate visibility.

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[5] A transect is a path along which one counts and records occurrences of the objects of study.




Figure 3. Reference Population Map

## 3.0 BOTANICAL SURVEY RESULTS

Weather conditions during the April and May 2023 surveys included partly cloudy skies, temperatures ranging from 65–72 °F, and winds vacillating from 0 to 05 miles per hour. During the pedestrian surveys it was determined that greater than 99% of the Project Site was comprised of disturbed, and/or non-native land cover types. Marvin's onion and Many-stemmed dudleya was not detected during any of pedestrian based biological surveys which were performed within the Project Site. Representative photographs of the Project Site, Marvin's onion and Many-stemmed dudleya reference populations are provided in Appendix A. Plant species observed during the surveys are listed in Appendix B.

The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report. Opinions relating to presence, absence, or potential for occurrence of biological resources are based on limited data and actual conditions may vary from those encountered at the times and locations where the data were obtained despite due professional care.

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# APPENDIX A

# PHOTOGRAPH LOG

| | |
|---|---|
|  | **Photograph 1.** Facing Southwest. |
|  | **Photograph 2.** Facing East. |

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| | |
|---|---|
|  | **Photograph 3.** Facing North. |
|  | **Photograph 4.** Facing West. |

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| | |
|---|---|
|  | **Photograph 5.** Marvin's onion reference population. |
|  | **Photograph 6.** Many-stemmed dudleya reference population. |

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# APPENDIX B

# PLANT SPECIES OBSERVED

| Scientific Name | Common Name |
|---|---|
| ***Asteraceae (Aster family)*** | |
| *Ambrosia dumosa* | Western ragweed |
| *Baccharis neglecta* | Roosevelt weed |
| *Baccharis sarothroides* | Desert broom |
| *Gnaphalium spp.** | Cudweed |
| *Lactuca serriola ** | Prickly lettuce |
| *Lasthenia gracilis** | Needle goldfields |
| *Matricaria discoidea** | Pineapple weed |
| *Oncosiphon piluliferum** | Stinknet |
| *Symphyotrichum chilense* | California aster |
| ***Anacardiaceae* (Cashew family)** | |
| *Schinus molle** | Peruvian pepper |
| ***Arecaceae (Palm family)*** | |
| *Syagrus romanzoffiana* | Queen palm |
| *Washingtonia Robusta** | Mexican fan palm |
| ***Boraginaceae (Forget-me-not family)*** | |
| *Amsinckia menziesii* | Fiddleneck |
| ***Brassicaceae (Mustard family)*** | |
| *Brassica nigra** | Black mustard |
| *Brassica Tournefortii** | Sahara mustard |
| *Pectocarya heterocarpa* | Chuckwalla combseed |
| *Plagiobothrys nothofulvus* | Rusty popocornflower |
| *Sisymbrium irio ** | London rocket |
| ***Cupressaceae (Cypress family)*** | |
| *Juniperus horizontalis** | Creeping juniper |
| ***Euphorbiaceae (Spurge family)*** | |
| *Croton setigerus** | Dove weed |
| ***Geraniaceae (Geranium family)*** | |
| *Erodium cicutarium** | Redstem stork's bill |
| ***Fabaceae (Pea family)*** | |
| *Lupinus bicolor* | Miniature lupine |
| *Medicago polymorpha ** | Burr medic |
| *Parkinsonia florida* | Blue palo verde |
| ***Malvaceae (Mallow family)*** | |
| *Malva parviflora** | Cheeseweed |
| ***Pinaceae (Pine family)*** | |

| Scientific Name | Common Name |
|---|---|
| *Pinus sp.** | Pine |
| ***Polemoniaceae (Phlox family)*** | |
| *Gilia spp.* | Gilia species |
| ***Poaceae (Grass family)*** | |
| *Avena fatua ** | Wild oat |
| *Bromus diandrus ** | Ripgut brome |
| *Bromus madritensis subsp. Rubens ** | Red brome |
| *Festuca arundinacea ** | Tall fescue |
| *Festuca myuros ** | Annual fescue |
| *Hordeum murinum ** | Wall barley |
| *Poa bulbosa ** | Bulbous bluegrass |

An "*" non-native plant species.

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# Appendix G Photographic Log

| | |
|---|---|
|  | **Photograph 1.** Facing Southwest. |
|  | **Photograph 2.** Facing East. |

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| | |
|---|---|
|  | **Photograph 3.** Facing North. |
|  | **Photograph 4.** Facing West. |

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# Appendix H Project GIS Files (provided separately)

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cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY



# CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT FOR THE BROWN STRAUSS INDUSTRIAL PROJECT, CITY OF BANNING, RIVERSIDE COUNTY, CALIFORNIA

**Prepared for:**
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Sandy Duarte, B.A.

**Principal Investigators:**
John Gust, Ph.D, RPA
Kim Scott, M.S.

**Date**
May 2023

***Cogstone Project Number:*** 5716
***Type of Study:*** Cultural and paleontological resources assessment
***Sites:*** none within Project Area
***USGS 7.5' Quadrangle:*** Beaumont (1999)
***Area:*** 14.92 acres
***Key Words:*** Negative Survey, Cultural and Paleontological Resources Assessment, Serrano Territory, Luiseño Territory, Cahuilla Territory, Gabrielino/Tongva Territory, Riverside County, late Pleistocene alluvial fan deposits of San Gorgonio Pass

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Federal Certifications WOSB, EDWOSB, SDB
State Certifications DBE, WBE, UDBE

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# SUMMARY OF FINDINGS

This study was conducted to determine the potential impacts to cultural and paleontological resources during the Brown Strauss Industrial (Project) in the City of Banning (City), Riverside County, California. The City is the lead agency for the Project under the California Environmental Quality Act (CEQA).

The Project is located within Assessor Parcel Numbers (APNs) 540-180-020, -022 and -026 located at 1219 and 1431 West Lincoln Street in the City of Banning, Riverside County, California.

The Project involves the development of 14.92 gross acres of vacant land to construct a steel manufacturing and distribution facility. The total development proposal includes a 45,000 square foot warehouse, a 3,000 square foot office, two 500 square foot enclosed saw sheds, and an outdoor storage yard. The Project entitlements will require a General Plan amendment, zone change, and parcel merger. Maximum expected depth of ground disturbance is 18 to 20 feet.

**Paleontological Resources**

The Project is mapped entirely as late Pleistocene (129,000 to 11,700 years ago) alluvial fan deposits of San Gorgonio Pass.

The results of the record search showed that no fossils have previously been recorded from the proposed Project Area or from within a one-mile radius. However, abundant late Pleistocene fossils have been found in association with the Diamond Valley Lake and San Diego Pipeline 6 / Salt Creek Channel projects in southern Hemet, California, approximately 15 miles southwest of the current Project. Thousands of Pleistocene fossils have been recorded near the Project Area, including Pacific mastodon, Columbian mammoth, ground sloth, sabre-toothed cat, dire wolf, short-faced bear, bison, horse, stilt-legged llama, yesterday's camel, flat-headed peccary, diminutive pronghorn, and California turkey.

Based upon recorded fossil locality data in and near the Project Area, areas mapped as alluvial fan deposits of San Gorgonio Pass are assigned a moderate sensitivity (PFYC 3).

At present, based upon the potential for impacts to the late Pleistocene alluvial fan deposits of San Gorgonio Pass at depth within the Project Area, a Paleontological Resources Impact Mitigation Plan should be developed and implemented, which should include development of a paleontology Worker Environmental Awareness Program as well as paleontological monitoring.

In the event of an unanticipated paleontological discovery, all work must be suspended within 50 feet of the find until a qualified paleontologist evaluates it.

**Cultural Resources**

Cogstone requested a search of the California Historical Resources Information System (CHRIS)

from the Eastern Information Center (EIC) located at the University of California, Riverside on November 17, 2022, which included the entire proposed Project Area as well as a half-mile radius. Results of the record search indicate that two previous studies have been completed within the Project Area while an additional four studies have been completed previously within a half-mile radius of the Project Area.

No cultural resources have been recorded within the Project Area. Outside of the Project Area a total of 34 cultural resources have been previously documented within the half-mile search radius from the Project Area. These consist of 13 historic built environment resources and one historic archaeological site within a quarter mile of the Project Area, and 18 historic built environment resources and two historic archaeological sites within a quarter- to a half-mile of the Project Area.

Cogstone requested a Sacred Lands File (SLF) search from the Native American Heritage Commission (NAHC) on November 17, 2022. The NAHC responded on November 9, 2022, that the results of the search were negative. The City of Banning is responsible for consultations to meet the requirements of Assembly Bill 52 (AB 52).

Cogstone archaeologists and cross-trained paleontologists Sandy Duarte and Christian Levine surveyed the entire Projects Area on April 6, 2023, using five-meter wide transects. Visibility was extremely poor (one percent or less) due to dense weed groundcover resulting from recent heavy rains. No cultural resources were observed during the pedestrian survey.

Based on a review of the results of the Sacred Lands File search, information from the EIC cultural records search, and review of USGS topographic quadrangle maps, the Project Area is assessed to have low sensitivity for buried prehistoric-aged cultural remains. Discoloration in USDA aerial photographs taken after the removal of the farms indicates the possibility of incomplete removal after demolition of the farms. The Project Area is assessed to have low to moderately low potential for buried historic-aged deposits such as foundations or trash pits.

Due to the low sensitivity for buried prehistoric-aged cultural deposits and low to moderately low sensitivity for buried historic-aged deposits, no additional work is required.

In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until a qualified archaeologist evaluates it. In the unlikely event that human remains are encountered during project development, all work must cease near the find immediately.

In accordance with California Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with

appropriate dignity, the human remains and associated grave goods. Work may not resume in the vicinity of the find until all requirements of the health and safety code have been met.

# INTRODUCTION

## PURPOSE OF STUDY

This study was conducted to determine the potential impacts to cultural and paleontological resources during the Brown Strauss Industrial (Project) in the City of Banning (City), Riverside County, California (Figure 1). The City is the lead agency for the Project under the California Environmental Quality Act (CEQA).

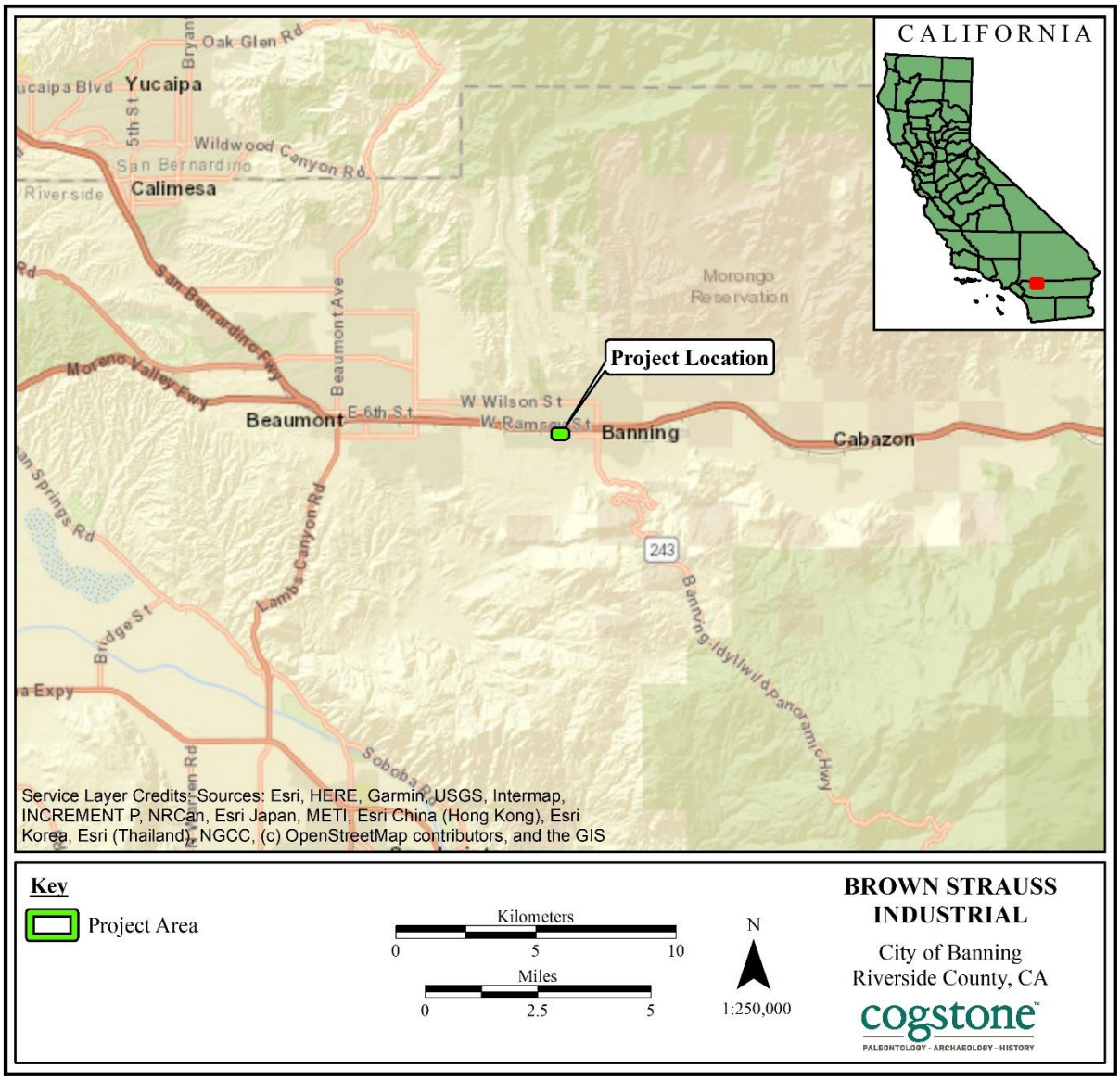


**Figure 1. Project vicinity map**

## PROJECT LOCATION AND DESCRIPTION

The Project is located within Assessor Parcel Numbers (APNs) 540-180-020, -022 and -026 located at 1219 and 1431 West Lincoln Street in the City of Banning, Riverside County, California. Specifically, it is located in the northern ½ of the southwestern ¼ of Section 9 of Township 2 South, Range 1 East on the Beaumont USGS 7.5-minute topographic quadrangle map, San Bernardino Baseline and Meridian (Figures 2, 3, and 4).

The Project involves the development of 14.92 gross acres of vacant land to construct a steel manufacturing and distribution facility. The total development proposal includes a 45,000 square foot warehouse, a 3,000 square foot office, two 500 square foot enclosed saw sheds, and an outdoor storage yard. The Project entitlements will require a General Plan amendment, zone change, and parcel merger. Maximum expected depth of ground disturbance is 18 to 20 feet.

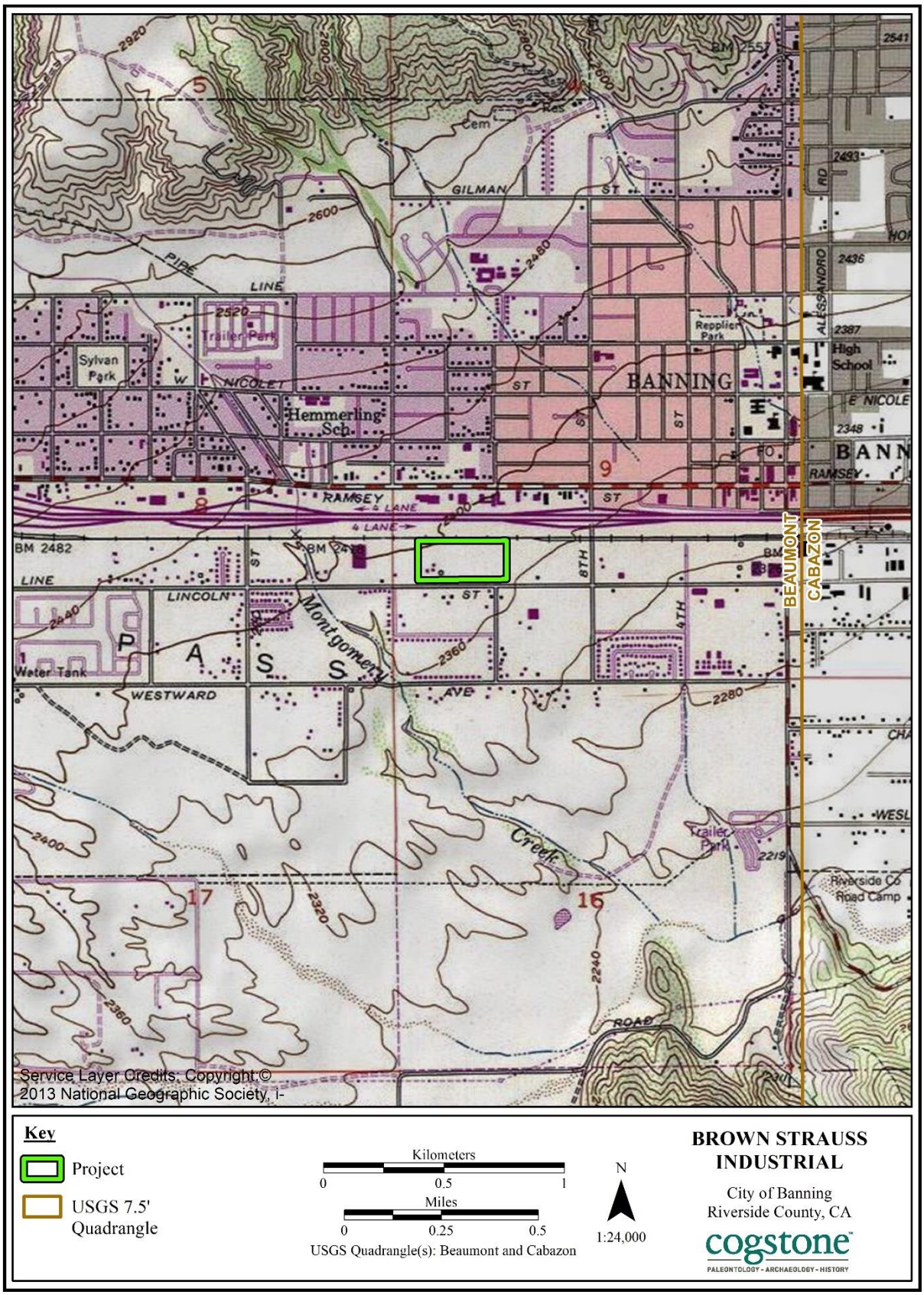


**Figure 2. Project location map**

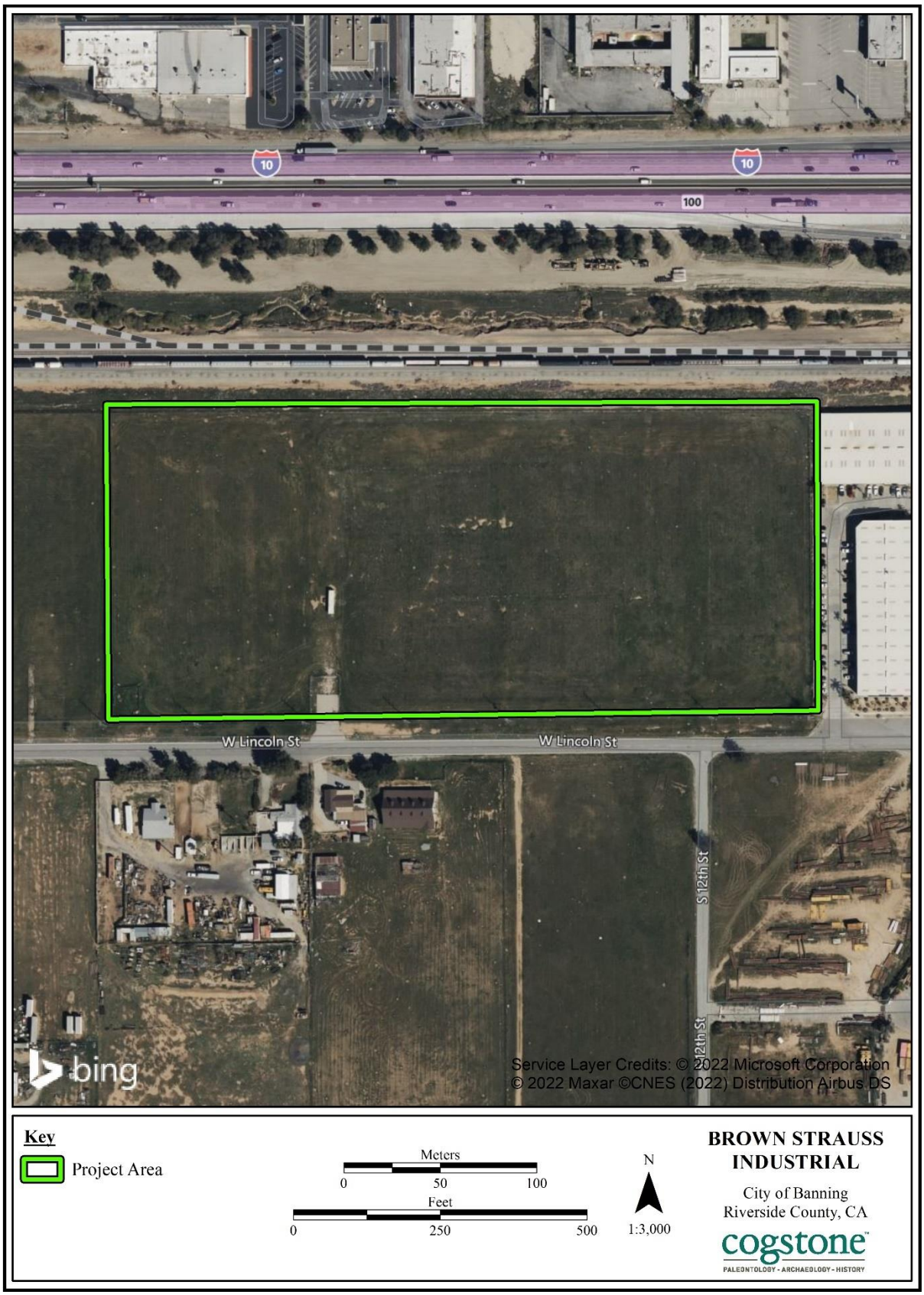


**Figure 3. Aerial map**

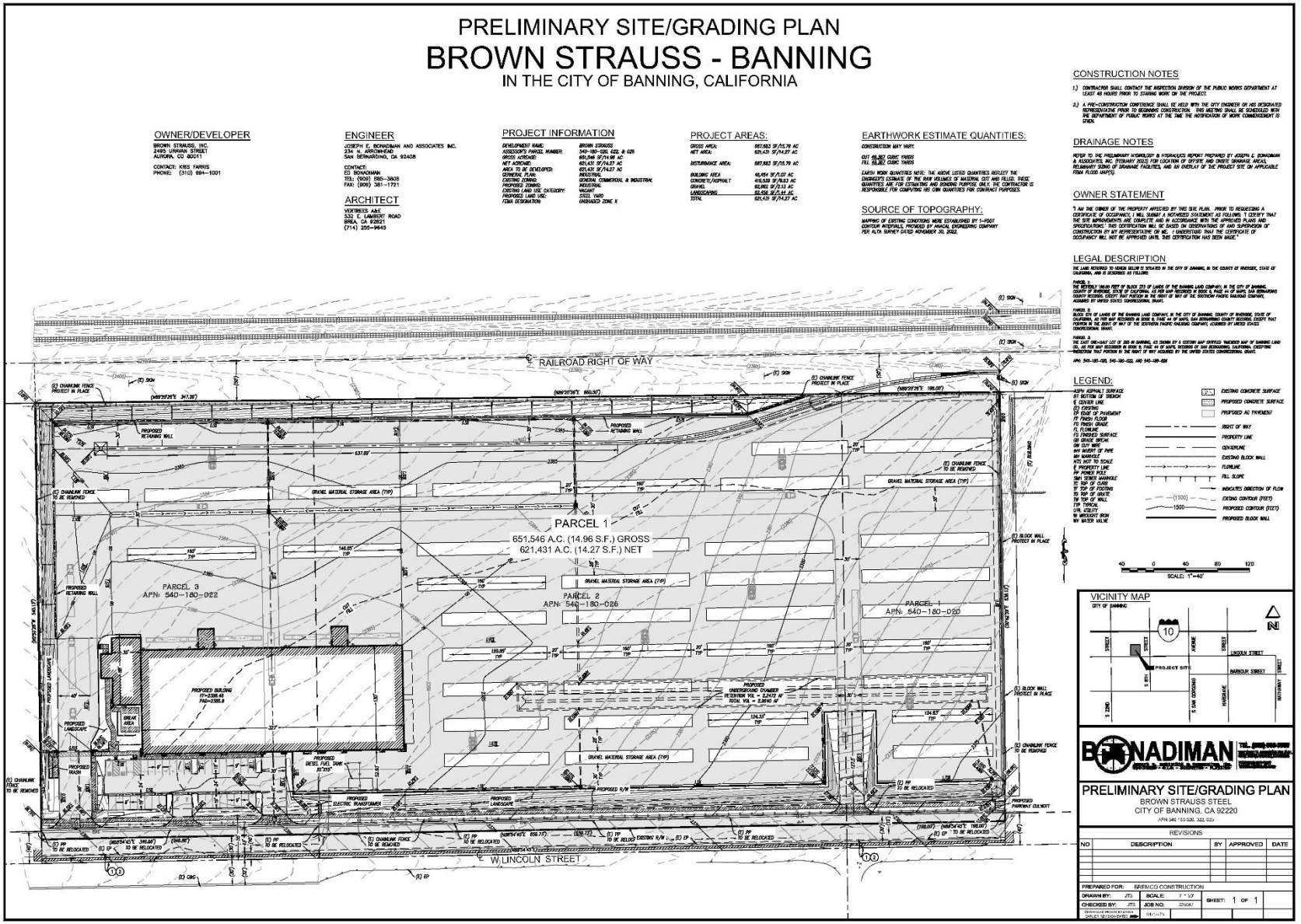


**Figure 4. Preliminary grading plan**

## PROJECT PERSONNEL

Cogstone Resource Management (Cogstone) conducted the cultural and paleontological resources study. Resumes of key personnel are provided in Appendix A.

- John Gust, RPA, served as the Task Manager, Principal Investigator for Archaeology, and co-authored this report. Dr. Gust has a Ph.D in Anthropology from the University of California (UC), Riverside and more than 11 years of experience in archaeology.
- Kim Scott served as the Principal Investigator for Paleontology for the Project. Ms. Scott holds an M.S. in Biology with an emphasis in paleontology from California State University (CSU), San Bernardino. She is a qualified vertebrate paleontologist and sedimentary geologist with more than 28 years of experience in California paleontology and sedimentary geology.
- Sandy Duarte co-authored this report and conducted the pedestrian survey. Mrs. Duarte holds a B.A. in Anthropology from the UC Santa Barbara, and has more than 19 years of experience in California archaeology.
- Shannon Lopez conducted historic society consultation letters for this Project. Ms. Lopez holds an M.A. in History from CSU Fullerton and has more than five years of experience as an architectural historian.
- Kelly Vreeland drafted the geological and paleontological portions of this report. Ms. Vreeland has an M.S. and B.S. in Geology, with an emphasis in paleontology, from CSU Fullerton, as well as 12 years of experience in California paleontology and geology.
- Logan Freeberg conducted the archaeological and paleontological record searches and prepared the maps for the report. Mr. Freeberg has a certificate in Geographic Information Systems (GIS) from CSU Fullerton and a B.A. in Anthropology from UC Santa Barbara and has more than 20 years of experience in southern California archaeology.
- Debbie Webster provided technical editing. Ms. Webster has more than 22 years of experience in technical writing.
- Molly Valasik was Task Manager for the Project and provided overall QA/QC. Ms. Valasik has an MA in Anthropology from Kent State University in Ohio and over 14 years of experience in southern California archaeology.
- Eric Scott provided QA/QC of the paleontology and geology sections of this report. Mr. Scott has an M.A. in Anthropology, with an emphasis in biological paleoanthropology, from University of California, Los Angeles (UCLA), and more than 39 years of experience in California paleontology.

# REGULATORY ENVIRONMENT

## STATE LAWS AND REGULATIONS

### CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA states that: It is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required are intended to assist public agencies in systematically identifying both the significant effects of proposed project and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.

CEQA declares that it is state policy to: "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered.

### TRIBAL CULTURAL RESOURCES

As of 2015, CEQA established that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resources Code, § 21084.2). In order to be considered a "tribal cultural resource," a resource must be either:

(1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or
(2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource.

To help determine whether a project may have such an effect, the lead agency must consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code §20184.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources.

**PUBLIC RESOURCES CODE**

Section 5097.5: No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands (lands under state, county, city, district or public authority jurisdiction, or the jurisdiction of a public corporation), except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

**CALIFORNIA REGISTER OF HISTORICAL RESOURCES**

The California Register of Historical Resources (CRHR) is a listing of all properties considered to be significant historical resources in the state. The California Register includes all properties listed or determined eligible for listing on the National Register, including properties evaluated under Section 106, and State Historical Landmarks No. 770 and above. The California Register statute specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources which must be given consideration under CEQA (see above). Other resources, such as resources listed on local registers of historic resources or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to be adopted by the Commission and are nominated; their listing in the California Register is not automatic.

Resources eligible for listing include buildings, sites, structures, objects, or historic districts that retain historical integrity and are historically significant at the local, state or national level under one or more of the following four criteria:

1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2) It is associated with the lives of persons important to local, California, or national history;
3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance.

Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data.

### NATIVE AMERICAN HUMAN REMAINS

Sites that may contain human remains important to Native Americans must be identified and treated in a sensitive manner, consistent with state law (i.e., Health and Safety Code §7050.5 and Public Resources Code §5097.98), as reviewed below:

In the event that human remains are encountered during project development and in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.

### CALIFORNIA ADMINISTRATIVE CODE, TITLE 14, SECTION 4307

This section states that "No person shall remove, injure, deface or destroy any object of paleontological, archeological or historical interest or value."

## DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;

4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003; Scott et al. 2004).

# BACKGROUND

## GEOLOGIC SETTING

This Project is in one of the most tectonically active regions of North America. To the north of the Project the San Andreas Fault Zone traverses the Cajon Pass where it forms the boundary between the Pacific Plate and the North American Plate. The Transverse Ranges are a result of these two plates grinding past each other and "catching" along the bend in the San Andreas. The Pacific Plate is composed of numerous blocks that can move independently.

The Transverse Range Province is an east-west trending series of steep mountain ranges and valleys aligned obliquely to the normal northwest trend of coastal California mountains, hence the name "Transverse." The province extends offshore to include San Miguel, Santa Rosa, and Santa Cruz islands. At its eastern extension, the San Bernardino Mountains have been displaced to the south along the San Andreas Fault. Intense north-south compression is squeezing the Transverse Ranges, and as a result this is one of the most rapidly rising regions of the earth.

The Project is mapped entirely as late Pleistocene (129,000 to 11,700 years ago, following Cohen et al. 2023) alluvial fan deposits of San Gorgonio Pass (Dibblee and Minch 2003). These alluvial sediments consist of sand and gravel deposits of plutonic and gneissic detritus originating from the San Bernardino Mountains to the north. The fans are slightly indurated, and they are slightly dissected by stream channels (Dibblee and Minch 2003).

## PALEONTOLOGICAL SETTING

Pleistocene sediments elsewhere throughout Riverside County are known to yield diverse extinct large mammals from the last Ice Age including mammoth, mastodon, ground sloth, dire wolf, short-faced bear, sabre-toothed cat, western horse, camel, and bison (Springer et al. 2009, 2010). Numerous still living species of small vertebrates and invertebrates have also been recovered from these deposits.

## ENVIRONMENTAL SETTING

The Project Area is located in the San Gorgonio Pass region formed by the San Andreas Fault, bound to the north by the San Bernardino Mountains and to the south by the San Jacinto and Santa Rosa Mountains; the eastern San Bernardino Valley is located to the west and the Coachella Valley, at the western edge of the Colorado Desert, is located to the east. The San Bernardino Mountains are the easternmost in the Transverse Range, extending approximately 60 miles east-west along on the southern edge of the Mojave Desert in southwestern San Bernardino County, north of the city of San Bernardino. The San Jacinto and Santa Rosa Mountains comprise the eastern Peninsular Range. The highest peak in the San Bernardino Mountains is San Gorgonio Mountain at an elevation of 11,502 feet above mean sea level, the highest peak in southern California (Goldberg et al. 2001). The nearby Big Morongo Canyon Preserve (BMCP) has a rich diversity of wildlife which includes over 247 bird species, as well as several mammals, including mule deer, desert bighorn sheep, and large carnivores, including black bears, coyotes, bobcats, badgers, kit fox, and gray fox, exist in the preserve. A wide variety of reptiles can be found in the area as well (BMCP 2022).

## PREHISTORIC SETTING

The latest cultural revisions for the Project Area define traits for time phases of the Greven Knoll Pattern of the Encinitas Tradition applicable to inland San Bernardino, Riverside, Los Angeles and Orange counties (Sutton and Gardner 2010). This pattern is subsequently replaced in the Project Area by the Peninsular Pattern of the Palomar Tradition later in time (Sutton 2011; Table 1).

**TABLE 1. CULTURAL PATTERNS AND PHASES**

| Phase | Dates B.P. | Material Culture | Other Traits |
|---|---|---|---|
| Greven Knoll I | 8,500 to 4,000 | Abundant manos and metates; Pinto dart points for atlatls or spears; charmstones, cogged stones, and discoidals rare; no mortars or pestles; and general absence of shell artifacts. | No shellfish; hunting important; flexed inhumations; and cremations rare. |

| Phase | Dates B.P. | Material Culture | Other Traits |
|---|---|---|---|
| Greven Knoll II | 4,000 to 3,000 | Abundant manos and metates; Elko dart points for atlatls or spears; core tools; late discoidals; few mortars and pestles; and general absence of shell artifacts. | No shellfish; hunting and gathering important; flexed inhumations; and cremations rare. |
| Greven Knoll III (formerly Sayles complex) | 3,000 to 900 | Abundant manos and metates; Elko dart points for atlatls or spears; scraper planes, choppers, and hammerstones; late discoidals; few mortars and pestles; and general absence of shell artifacts. | No shellfish; yucca and seeds as staples; hunting important but animal bones also processed; flexed inhumations beneath rock cairns; and cremations rare. |
| Peninsular I | 900 to 750 | Appearance of small points (Cottonwood points and Desert Side-notched) for arrows; shaft straighteners; pottery; few stone ornaments or stone pipes; appearance of shell ornaments; use of obsidian glass from Coso, Obsidian Butte, Bagdad, and unknown sources; and use bedrock metates but few mortars and pestles. | Adoption of a lacustrine-based subsistence system; movement of people into the northern Coachella Valley from the interior valleys as Lake Cahuilla filled; establishment of major residential bases along the Lake Cahuilla shoreline; and primary pit cremations. |
| Peninsular II | 750 to 300 | Addition of brown ware pottery, ceramic pipes and figurines; use of same obsidian sources; and the use of stone fish traps as levels of Lake Cahuilla fluctuated and eventually declined. | Lacustrine based subsistence; and the appearance of the Peninsular Funerary Complex, with secondary cremations placed in ceramic "containers" and associated mourning ceremonies. |
| Peninsular III | 300 to 150 | Continued use of Cottonwood and Desert Side-notched points; brown ware and buff ware pottery; primary use of Obsidian Butte as an obsidian source; addition of new figurine types; addition of some cultigens such as melons and squash, and the introduction of Euro-American material culture (e.g., glass beads and metal tools). | Adoption of terrestrial-based subsistence system; full-time villages near springs; movement of some people west into the northern Peninsular Ranges as Lake Cahuilla became desiccated; use of domesticated species obtained from Colorado River Yumans and Euro-Americans; primary pit cremation as the principal mortuary practice; and retention of mourning ceremonies. |

Greven Knoll sites tend to be located in the inland valley areas characteristic of the Project Area. These inland people apparently did not switch from the use of manos and metates to the use of pestles and mortars that is seen in coastal sites dating to approximately 5000 years ago, possibly reflecting their closer relationship with desert cultural peoples who did not exploit acorns. The Greven Knoll toolkit is dominated by manos and metates throughout its 7,500 year extent. In Phase I, other typical characteristics were pinto dart points for atlatls or spears, charmstones, cogged stones, absence of shell artifacts, and flexed position burials. In Phase II, Elko dart points for atlatls or spears and core tools are observed along with increased indications of gathering. In Phase III, stone tools including scraper planes, choppers and hammerstones are added to the toolkit, and yucca and plant seeds are staple foods, animal bones are heavily

processed (broken and crushed to extract marrow), and burials tend to be marked by stone cairns (Sutton and Gardner 2010).

Early Peninsular sites tend to be near sources of freshwater in valleys. The former Lake Cahuilla played a major role in the prehistory of the Colorado Desert. As detailed above, Lake Cahuilla formed periodically when the Colorado River broke its channel and flowed into the Salton Trough of the Coachella and Imperial Valleys, forming a large, deep body of fresh water. Sutton (2011) suggests that some San Luis Rey I people of Yuman descent split away and migrated east to the northern Peninsular Ranges and the northern Coachella Valley to exploit Lake Cahuilla, and in so doing became Peninsular I. The Peninsular Pattern then developed through the Peninsular I, II and III phases (Sutton 2011).

The Peninsular I phase is marked by small points for arrows, the appearance of bedrock mortars indicating use of acorns, pottery, the appearance of shell ornaments, and pit cremations are common. Hunting and gathering of terrestrial resources and the exploitation of Lake Cahuilla's lacustrine resources resulted in the development of new technologies for waterfowl decoys and fish traps and/or nets. The Peninsular II phase has some important new material traits including brown ware pottery, ceramic pipes and figurines, and secondary burials in containers. The Peninsular III phase reflects the archaeological signature of the ethnographic groups that had become established in Peninsular I and II phases with the addition of some Euro-American material culture (Sutton 2011).

## ETHNOGRAPHY

### CULTURAL AFFILIATION

A review of the ethnographic literature identifies the Project Area as being within the traditional territory of the Cahuilla (Figure 5; Strong 1929; Bean 1978:576) while others identify the area as being within Serrano Territory (Figure 6; Benedict 1924). Locating the tribal use of the Project Area is further complicated by Spanish colonization and the displacement of the Native American communities through the American Period.

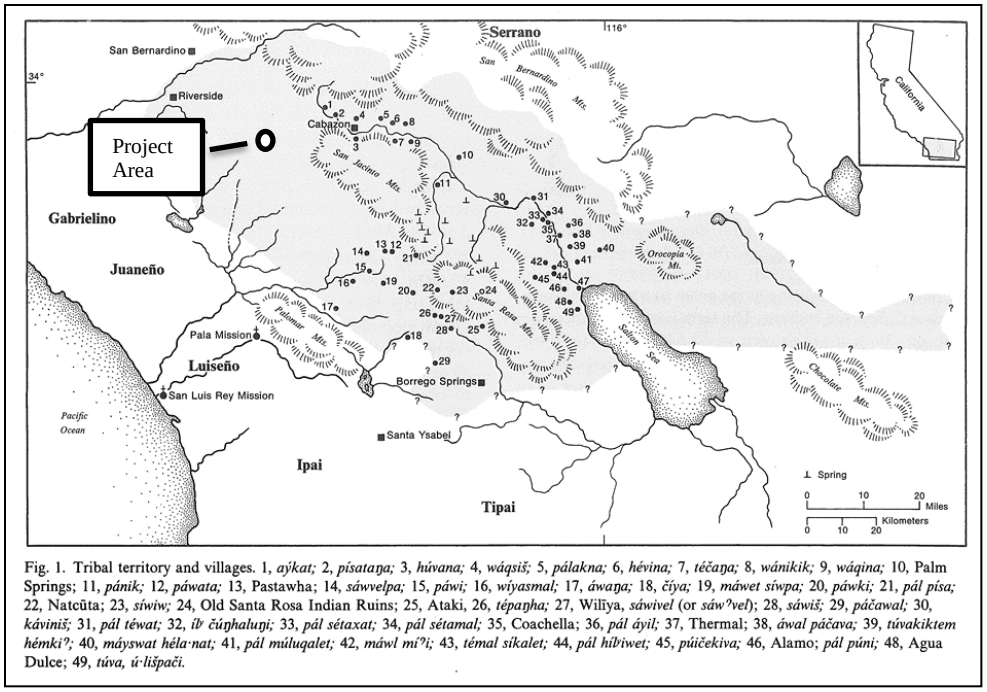


Fig. 1. Tribal territory and villages. 1, *aýkat;* 2, *písataŋa;* 3, *húvana;* 4, *wáqsiš;* 5, *pálakna;* 6, *hévina;* 7, *téčaŋa;* 8, *wánikik;* 9, *wáqina;* 10, Palm Springs; 11, *pánik;* 12, *páwata;* 13, Pastawha; 14, *sáwvelpa;* 15, *páwi;* 16, *wíyasmal;* 17, *áwaŋa;* 18, *číya;* 19, *máwet síwpa;* 20, *páwki;* 21, *pál písa;* 22, Natcûta; 23, *síwiw;* 24, Old Santa Rosa Indian Ruins; 25, Ataki, 26, *tépaŋha;* 27, Wilīya, *sáwivel* (or *sáw?vel*); 28, *sáwiš;* 29, *páčawal;* 30, *káviniš;* 31, *pál téwat;* 32, *ił čúŋhaluŋ;* 33, *pál sétaxat;* 34, *pál sétamal;* 35, Coachella; 36, *pál áyil;* 37, Thermal; 38, *áwal páčava;* 39, *túvakiktem hémki?;* 40, *máyswat héla·nat;* 41, *pál múluqalet;* 42, *máwl mí?i;* 43, *témal síkalet;* 44, *pál hílwiwet;* 45, *púičekiva;* 46, Alamo; *pál púni;* 48, Agua Dulce; 49, *túva, ú·lišpači.*

**Figure 5. Cahuilla territory showing approximate location of Project Area (Bean 1978)**

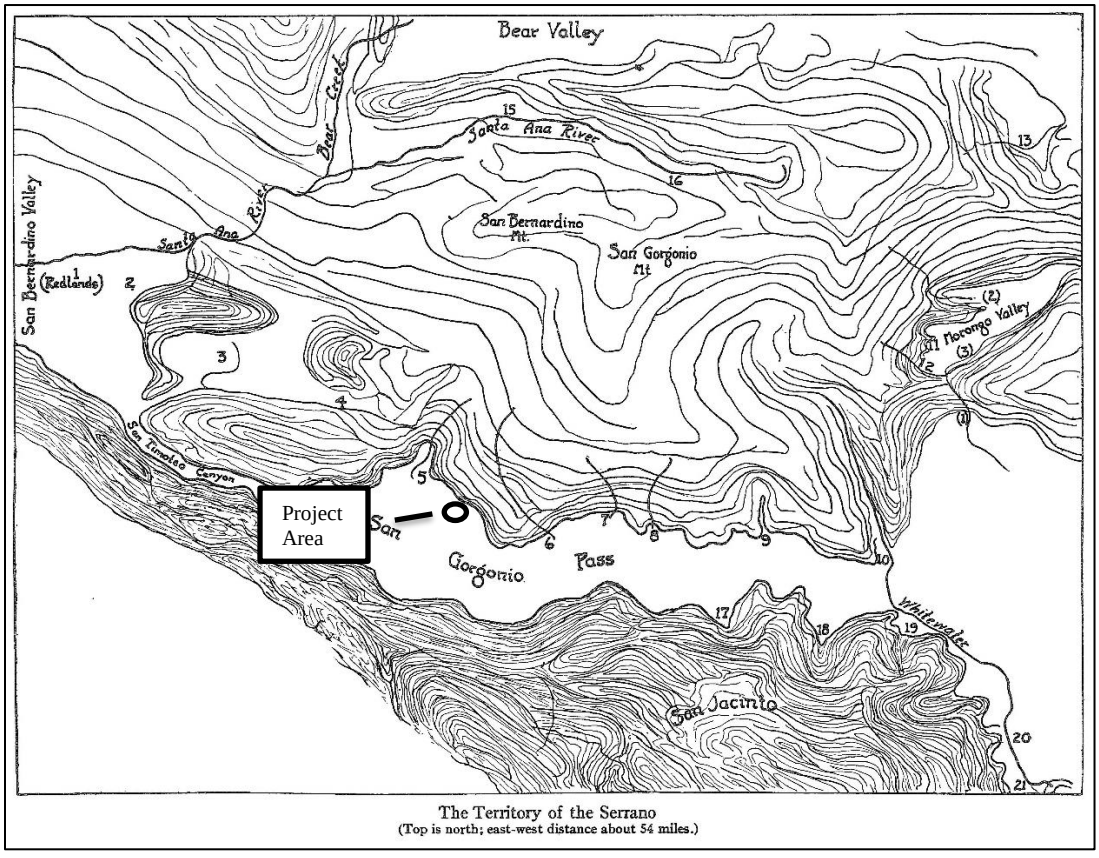


**Figure 6. Serrano Territory (Benedict 1924:367)**

**CAHUILLA**

The Cahuilla occupied the San Gorgonio Pass (referred to as the Pass Cahuilla), San Jacinto and Santa Rosa Mountains (Mountain Cahuilla), and the Coachella Valley and the northern end of Imperial Valley (Desert Cahuilla). The Project Area is identified as being within Pass Cahuilla Territory (Figure 7). The Cahuilla are linked to other Takic language family groups such as the Serrano and Luiseño and share many aspects of culture and religion with those tribes.

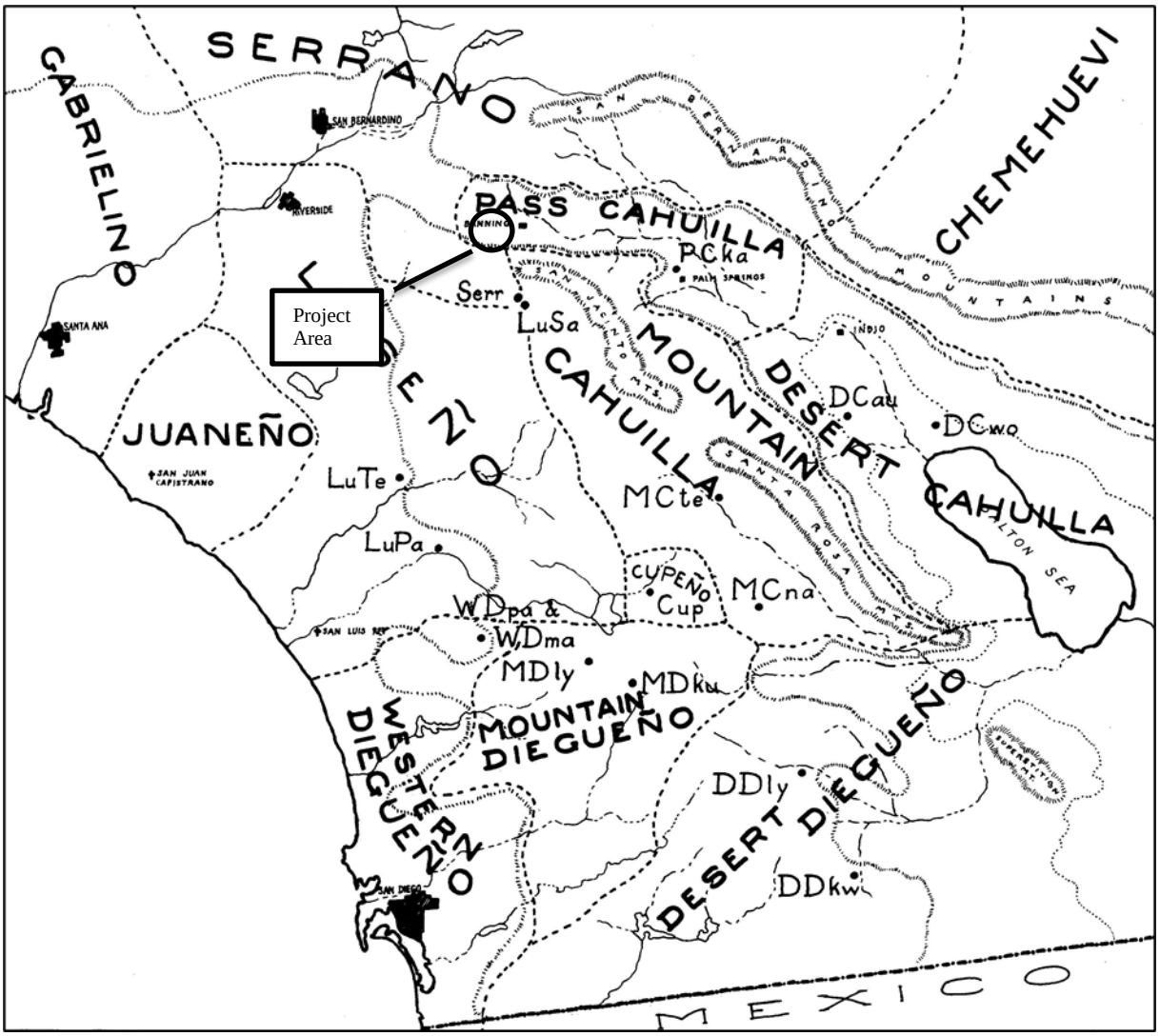


**Figure 7. Serrano and Cahuilla territory showing approximate location of Project Area (from Drucker 1937: Figure 1)**

Each person's primary identity was linked to clan lineage and moiety rather than overall tribal affiliation. The two moieties of the Cahuilla were *Istam* (coyote) and *Tuktum* (wild cat). Affiliation was inherited from the father's moiety and members of one moiety had to marry into the other group. Each clan was an independent, politically autonomous land-holding unit (Bean and Saubel 1972; Bean 1978; Strong 1929).

In addition to lineage residence areas and clan territory owned in common with other clan members, each lineage had ownership rights to various food collecting and hunting areas. Individuals also "owned" specific areas rich in plant resources, as well as hunting grounds, rock quarry locations, and sacred spots used only by shamans, healers, and ritual practitioners.

Cahuilla clans varied in size from several family groups to those composed of several thousand people. Clans were generally situated so that each lineage or community was located near a reliable water source and in proximity to significant food resources. Within each community, house structures were spatially placed at some distance from each other. Often a community would spread over a mile or two in distance with each nuclear and extended family having homes and associated structures for food storage and shaded work places (ramadas) for tool manufacture and food processing. Each community also contained a house clan leader.

In more recent times, a ceremonial house (*kishumnawat*) was placed within each community, and most major religious ceremonies of the clan were held there. In addition, house and ceremonial structures, storage granaries, sweat houses, and song houses (for recreational music) were present. Usually an area within one to three miles contained the bulk of materials needed for daily subsistence, although territories of a given clan might be larger, and longer distances were traveled to get precious exotic resources, usually found in the higher elevations of the surrounding mountains.

While most daily secular and religious activities took place within the community, there were locations at some distance from the community where people camped for extended periods to harvest acorns or piñon nuts. Throughout the area, there were sacred places used primarily for rituals, intergroup or inter-clan meetings, caches for sacred materials, and locations for use by shamans or medicine men. Generally, hilly, rocky areas, cave sites, or walled cave sites were used for temporary camping, storage of foods, fasting by shamans, and as hunting blinds.

Between the mid-1500s and the 1800s, the Cahuilla were variously contacted by Spanish explorers, then Mexican ranchers, and later American settlers. By the mid-1800s, the Cahuilla were fully exposed to new peoples with new cultural ways, opportunities, and constraints. In the 1860s, several epidemics devastated the Cahuilla population and the increasing contact with Europeans continued to have a major impact on their traditional lifeway. Survivors of decimated

Cahuilla clans joined villages that were able to maintain their ceremonial, cultural, and economic institutions (Bean 1978). Today there are 2,996 (alone) people who identify as Cahuilla (4,238 in any combination) according to the 2010 United States Census (United States Census Bureau 2006-2010).

**SERRANO**

The name Serrano comes from a Spanish word meaning "mountaineer" or "highlander" because their villages were located within the San Bernardino Mountains as well as its northern and southern slopes. The Serrano designation also includes the Kitanemuk, Vanyume, and Alliklik communities (Strong 1929:5). In addition to the San Bernardino Mountains and its foothills, Serrano territory extended south to Yucaipa Valley, east to the Mojave River watershed, and north to the Twentynine Palms region (Bean and Smith 1978:570). The Serrano language is part of the Takic subfamily of the larger Uto-Aztecan language family. The traditional name used to identify the Serrano is Maara'yam.

Historically, the Serrano were nomadic and migrated to the cool, pine forests of the San Bernardino Mountains during the summer and returned to the desert regions during the winter. Most Serrano village sites were located in the foothills of the upper Sonoran zone with a few outliers located near permanent water sources on the desert floor, or in the forest transition zone (Bean and Smith 1978:570).

The Serrano traded with the Mojave to the east and the Gabrielino/Tongva to the west. They also traded with their close neighbors, the Cahuilla in the San Jacinto and Santa Rosa Mountains, the Banning Pass area, and the greater Coachella Valley. In addition, the Serrano traded with the Chemehuevi who occupied the lower Colorado River region, some of whom migrated westward towards the Project study area.

Prior to European contact, the Serrano were primarily hunters and gatherers. Women were responsible for most of the gathering and acorns, piñon nuts, and mesquite beans were collected as staple foods. Spring cactus fruits and berries were consumed fresh for both food and water. Flower blossoms were roasted and eaten. Yucca blossoms and stalks were blanched before being eaten. Roots were used for food and medicine, and leaves and stems were used for making tea. Digging sticks were frequently used to dig for plants and roots for subsistence and medicinal purposes (Johnston 1965:8). One main seed resource was chia, and stands of chia were periodically burned in order to increase yield. Other major plant foods included mesquite beans and the nuts from piñon pine and acorn. Acorns were leached by placing baskets of pounded and shelled acorn meal into a sandy hole with just enough water to allow the dissolved tannic acid to seep out. Other plant seeds were parched and made into a mush by boiling or cooking and dropping a heated stone into a water-tight basket filled with seeds and water. Some seeds were dried and stored in baskets. Baskets were made from willow and mesquite branches and woven with bone awls.

Because of their migratory nature, the Serrano and neighboring tribes "cached" many of their possessions and provisions instead of transporting these often heavy items long distances. These "caches" were guarded by "spirit sticks" that were left upright adjacent to the cache. Today there are 324 (alone) people who identify as Serrano (514 in any combination) according to the 2010 United States Census (United States Census Bureau 2006-2010).

## HISTORIC SETTING

### SPANISH PERIOD (1769-1822)

The earliest explorations of California occurred in 1542, when Juan Rodríguez Cabrillo and his party landed near Point Loma. Cabrillo had been tasked by the Spanish monarch with exploration of the western United States interior. Interaction with the native population was initiated, but intensive exploration and colonization of California by Spain did not occur until the 1700s.

In 1769, the Spanish developed plans to build three towns and four presidios (forts) along the California coastline stretching from San Diego northward to Monterey. The town sites, established between 1777 and 1797, included present-day Los Angeles, San Jose, and a small town near Santa Cruz named Branciforte. The presidios were established at San Diego, Santa Barbara, Monterey, and San Francisco. Under Spain, the borderlands were colonized as defenses against the intrusion of the English, French, Dutch, and Russians, with the Manila trade an important item for protection in California. They were held by two typical institutions: the mission and the presidio (Bolton 1913, 1921, 1930 as cited in Aviña 1976).

Mission San Gabriel was founded in 1771 and was the fourth of 21 Franciscan missions built in California. The goals of the missions were tri-fold: they established a Spanish presence on the west coast, provided a way to Christianize native peoples, and served to exploit native population as laborers. The mission system severely disrupted the Native socio-political structure, especially those living in close proximity (Loumala 1978:595).

Arrival of the Franciscan missionaries during the Spanish period resulted in far-reaching alterations in Native American lifeways. These shifts included high mortality rates and social changes due to the introduction of European diseases and customs (e.g., European farming methods; Dobyns 1983; Walker and Hudson 1989). Due to the high mortality rates, many Native American villages were abandoned, with inhabitants fleeing to the missions:

> "As the Native Americans watched the Europeans remain healthy during the epidemics, they began to view disease as a form of divine punishment for human transgressions" (Dobyns 1983). "Believing that the Christian God held a power greater than their own, the Natives willingly joined the Spanish missions" (Rushing 1995:15).

The Native population decreased as a consequence of a series of epidemics, and their traditional lifestyle was severely altered as neophytes were converted to Christianity and forced to work for the mission.

In 1819, the San Bernardino Asistencia, a satellite rancho associated with Mission San Gabriel, was established (California Office of Historic Preservation n.d.). Located in what is now Redlands, California, approximately 20 miles west-northwest of the Project Area, this complex was the easternmost outpost of the Mission San Gabriel. Its lands were used for cattle grazing and as a place to round up the Cahuilla and Serrano as labor.

**Mexican Period (1822-1847)**

After Mexico gained independence from Spain in 1821, major efforts were taken by the Mexican government to establish reliable land routes throughout Alta California. In the 1920s, a group of soldiers was dispatched from Sonora to do just that. The group documented new routes through San Diego County, Riverside County, through Mission San Gabriel and up to the pueblo of Los Angeles. In the early days, this route through Southern California was known as "El Camino Real" and would later be known as Sonora Road, the Colorado Road, and the Los Angeles to Yuma Road (Lech 2012).

The use of this new road resulted in a substantial increase to Riverside County's population. New settlers purchased land and built their homes along the road which doubled as way stations for travelers. In 1826, the Mexican government declared that Sonora Road would serve as the official mail route between Mexico and California. In the hopes of staving off encroachment by the ever expanding United States, the Mexican government was eager to entice its own settlers to travel north and populate California. However, this proved difficult as the best land in the region was already claimed by the numerous missions located there. As a response, in 1826, California Governor Jose Maria Echeandia announced a plan to secularize the missions and use the inhabitants to establish Native American village settlements. The same year, Governor Echeandia authorized a partial emancipation decree which allowed some "Mission Indians" to leave their missions and find work for Hispanic settlers. The partial emancipation policy began in the Monterey district and was later implemented elsewhere (Milliken et al. 2009).

In 1833, the southern Mission Prefect Narciso Duran wrote of the contrast of the quality of life of the natives that remained at the mission versus who were "emancipated" and worked in the pueblo of Los Angeles:

> "I have seen with the greatest amazement that [the Indians who dwell in the pueblo of Los Angeles] . . . live far more wretched and oppressed than those in the missions. There is not one who has a garden of his own, or a yoke of oxen, a horse, or a house fit for a rational being. The equality with the white people, which is preached to them,

> consists in this, that these Indians are subject to a white *comisionado*, and are the only ones who do the menial work . . . All in reality are slaves, or servants of white men who know well the manner of securing their services by binding them a whole year for an advanced trifle . . . The benevolent ideas of the Government will never be realized, because the Indian evinces no other ambition than to possess a little more savage license, even though it involved a thousand oppressions of servitude" (Milliken et al. 2009).

Following years of intense debate, the mission lands were secularized under the Secularization Act of 1833 and large portions of land reverted to the governor to parcel out as he saw fit. From 1834 to the end of the Mexican Period in 1946, approximately seven hundred land grants (ranchos) were issued to Mexican citizens (Lech 2012).

**AMERICAN PERIOD (1848-PRESENT)**

The Mexican-American war followed on the heels of the Bear Flag Revolt of June 1846 (Ohles 1997). General Andrés Pico and John C. Frémont signed the Articles of Capitulation in December 1847, and with the signing of the Treaty of Guadalupe Hidalgo in February 1848, hostilities ended and Mexico relinquished California to the United States. Under the treaty, Mexico ceded the lands of present-day California, Arizona, New Mexico and Texas to the United States for $15 million (Fogelson 1993:10). Within two years following the treaty, California applied for admission as a state.

Following vast territorial gains, a flood of American, European, and Asian settlers moved west. With the discovery of gold in California in 1849, by the following year, 100,000 settlers, all seeking gold, descended on California. Due to a lack of governmental authority and oversight, there was widespread killing of natives and kidnapping of native children by miners (Castillo 2022).

In 1851, the State of California in conjunction with two senators in the United States Senate overturned multiple treaties that had been previously negotiated and signed by the Native Americans of California. As a result, until the 1870s, local tribes had no legal standing with the government until a presidential executive order was signed which established reservations for multiple tribes.

A successful citrus industry was established in Riverside County in the 1870s. Extensive orange, lemon, and lime groves occupied vast tracts of land which required long hours and hard work to maintain. For the first decade of Riverside County's citrus boom, Native Americans provided the primary source of labor, working as irrigators, pickers, and packers until they were replaced by Chinese immigrants in the 1880s (Rincon Consultants, Inc. 2018).

Throughout the 19th and 20th centuries, Native Americans of Riverside County made a living on and off their reservations as farm laborers, cowboys, artists, merchants, teamsters, rail workers, etc. (Trafzer and Smith 2006).

**PROJECT AREA HISTORY**

The Pacific Railroad passes through the northern portion of the Project Area in the 1901 San Jacinto (1:125,000), and 1901 and 1904 Southern California (1:250,000) United State Geological Survey (USGS) topographic quadrangle maps. An intermittent water course that passes through the western half of the Project Area is noted in the 1952 Banning (1:62,500) and 1965 Santa Ana (1:250,000) USGS topographic quadrangle maps. The 1966, 1967, 1972, and 1985 United States Department of Agriculture (USDA) historic aerial photographs show two farms at the east end of the Project Area and one in the western portion (NETROnline 1966, 1967, 1972, 1985), with all of them being near West Lincoln Street. A wide strip of land is under active cultivation around the western farm in the1967 photograph. The main buildings that are associated with the three farms are depicted on the Beaumont (1:24,000) USGS topographic quadrangle maps from 1972, 1979, 1988, and 1996. The Pacific Railroad track also shifts north and out of the Project Area in these maps. It is unclear if this is due to rail replacement, but is more likely due to mapping error in the earlier maps. The Project Area is empty in the 1996 USDA aerial photograph except for some discoloration around where the buildings were once located. USDA aerial photographs from 1996, 2000, 2002, 2005, and 2009 show that between 1996 and 2000 the western approximately 60 percent of the Project Area was used as a metal supply yard, that between 2000 and 2002 the yard grew to cover the entire Project Area, and between 2005 and 2009 this use was discontinued and all stock was removed (NETROnline 1996, 2000, 2002, 2005, 2009). Two trailers are visible in the 2018 USDA aerial photograph in the western half of the Project Area. The Project Area shows no sign of use or activity, other than possible brush control, in USDA aerial photographs taken after 2009 (NETROnline 2009, 2010, 2012, 2014, 2016, 2018, 2020).

# RECORDS SEARCH

## PALEONTOLOGICAL RECORD SEARCH

The results of the record search showed that no fossils have been recovered from the proposed Project Area or from within a one-mile radius (Stoneburg 2022). However, Pleistocene sediments have produced fossils nearby (Appendix B). Remains of mammoth (†*Mammuthus* sp.) were reported from the city of Riverside (UCMP 2023). Cogstone recovered horse remains (†*Equus occidentalis*) from desert loess-like deposits on Pachappa Hill (Scott et al. 2014). Specimens of extinct sabre-toothed cat (†*Smilodon* sp.) was recovered from the south end of Fontana (Scott 2008). Finally, mastodon (†*Mammut* sp.), bison (†*Bison* sp.), and camel (†*Camelops* sp.) fossils were recovered from western Fontana (Scott 2008; Table 2).

Late Pleistocene fossils have been found in association with the Diamond Valley Lake and San Diego Pipeline 6/Salt Creek Channel projects in southern Hemet, California, approximately 15 miles southwest of the current Project. Thousands of Pleistocene fossils including California turkey (†*Meleagris californica*), ground sloths (†*Megalonyx jeffersonii*, †*Nothrotheriops shastensis*, †*Paramylodon harlani*), sabre-toothed cat (†*Smilodon fatalis*), dire wolf (†*Aenocyon dirus*), short-faced bear (†*Arctodus* sp.), horses (†*Equus conversidens*, †*Equus occidentalis*), stilt-legged llama (†*Hemiauchenia macrocephala*), yesterday's camel (†*Camelops hesternu*s), flat-headed peccary (†*Platygonus compressus*), diminutive pronghorn (†*Capromeryx minor*), bison (†*Bison antiquus*, †*Bison latifrons*), Pacific mastodon (†*Mammut pacificus*), and Columbian mammoth (†*Mammuthus columbi*) were recovered from this project (Springer et al. 2009, 2010; Table 2).

**Table 2. Pleistocene Fossils from the Diamond Valley Reservoir and San Diego Pipeline 6/ Salt Creek Channel Projects**

| Group | Common Name | Vertebrate Taxon |
|---|---|---|
| amphibians | salamander | Urodela |
| | western spadefoot toad | *Scaphiopus hammondii* |
| | likely western toad | *Anaxyrus* sp. Cf. *A. boreas* |
| | likely California treefrog | *Pseudacris* sp. Cf. *P. cadaverina* |
| reptiles | pond turtle | *Actinemys* sp. |
| | desert tortoise | ‡*Gopherus agassizii* |
| | whiptailed lizard | *Aspidoscelis tigris* |
| | alligator lizard | *Elgaria* sp. |
| | collared lizard | *Crotaphytus collaris* |
| | coast horned lizard | *Phrynosoma coronatum* |
| | likely sagebrush lizard | *Sceloporus* sp. cf. *S. graciosus* |
| | western fence lizard | *Sceloporus occidentalis* |
| | side-blotched lizard | *Uta stansburiana* |
| | iguana | Iguanidae |
| | kingsnake | *Lampropeltis* sp. |
| | whipsnake | *Masticophis* sp. |
| | pine snake | *Pituophis melanoleucus* |
| | blackhead snake | *Tantilla* sp. |
| | garter snake | *Thamnophis* sp. |
| | likely sidewinder | *Crotalus* sp. Cf. *C. cerastes* |
| | rattlesnake | *Crotalus* sp. |
| birds | duck | *Anas* sp. |
| | California turkey | †*Meleagris californica* |
| | golden eagle | *Aquila chrysaetos* |
| | likely Cooper's hawk | *Accipiter* sp. Cf. *A. cooperi* |
| | falcon | *Falco* sp. |
| | shore bird | Scolopacidae |

| Group | Common Name | Vertebrate Taxon |
|---|---|---|
| | likely short-eared owl | *Asio* sp. Cf. *A. flammeus* |
| | northern flicker | *Colaptes auratus* |
| | Steller's jay | *Cyanocitta stelleri* |
| | common raven | *Corvus corax* |
| | raven | Corvidae |
| | swallow | cf. *Hirundo* sp. |
| | swallow | Hirundinidae |
| | likely American robin | cf. *Turdus migratorius* |
| | likely western meadowlark | cf. *Sturnella neglecta* |
| mammals | Jefferson's ground sloth | †*Megalonyx jeffersonii* |
| | Shasta's ground sloth | †*Nothrotheriops shastensis* |
| | Harlan's ground sloth | †*Paramylodon harlani* |
| | black-tailed jackrabbit | *Lepus californicus* |
| | desert cottontail | *Sylvilagus audubonii* |
| | antelope ground squirrel | ‡*Ammospermophilus* sp. |
| | California ground squirrel | *Otospermophilus beecheyi* |
| | ground squirrel | *Otospermophilus* sp. |
| | Beechey's ground squirrel | *Eutamius* sp. |
| | kangaroo rat | *Dipodomys* sp. |
| | Pocket mouse | *Perognathus* sp. |
| | Botta's pocket gopher | *Thomomys bottae* |
| | California meadow vole | *Microtus californicus* |
| | dusky-footed wood rat | *Neotoma fuscipes* |
| | desert wood rat | *Neotoma lepida* |
| | likely canyon mouse | *Peromyscus* sp. Cf. *P. crinitus* |
| | harvest mouse | *Reithrodontomys* sp. |
| | ornate shrew | *Sorex ornatus* |
| | broad-footed mole | *Scapanus latimanus* |
| | mouse-eared bat | *Myotis* sp. |
| | bobcat | *Lynx rufus* |
| | sabre-toothed cat | †*Smilodon fatalis* |
| | coyote | *Canis latrans* |
| | dire wolf | †*Aenocyon dirus* |
| | grey fox | *Urocyon cinereoargenteus* |
| | likely short-faced bear | cf. †*Arctodus* sp. |
| | black bear | ‡*Ursus americanus* |
| | skunk | *Mephitis* sp. |
| | long-tailed weasel | *Mustela frenata* |
| | badger | *Taxidea taxus* |
| | Mexican ass | †*Equus conversidens* |
| | western horse | †*Equus occidentalis* |
| | stilt-legged llama | †*Hemiauchenia macrocephala* |
| | yesterday's camel | †*Camelops hesternus* |
| | flat-headed peccary | †*Platygonus compressus* |

| Group | Common Name | Vertebrate Taxon |
|---|---|---|
| | diminutive pronghorn | †*Capromeryx minor* |
| | pronghorn | ‡*Antilocapra americana* |
| | mule deer | *Odocoileus hemionus* |
| | antique bison | †*Bison antiquus* |
| | long-horned bison | †*Bison latifrons* |
| | Pacific mastodon | †*Mammut pacificus* |
| | Columbian mammoth | †*Mammuthus columbi* |

**Notes and Abbreviations:**
† = the taxon is extinct, although there may be living relatives in same genus or family
‡ = animal extirpated
**sp.** = genus certain but species uncertain
**cf.** = compares favorably with or likely
From Springer et al. (2009, 2010)

## CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

Cogstone requested a search of the California Historical Resources Information System (CHRIS) from the Eastern Information Center (EIC) located at the University of California, Riverside on November 17, 2022, which included the entire proposed Project Area as well as a half-mile radius. Results of the record search indicate that two previous studies have been completed within the Project Area while an additional four studies have been completed previously within a half-mile radius of the Project Area (Table 4).

**Table 4. Previous studies within a half mile radius of the Project Area**

| Report No. (RI-) | Author(s) | Title | Year | Distance (miles) from Project Area |
|---|---|---|---|---|
| 02350 | Rebecca McCorkle Apple and Jan E. Wooley | MCI Rialto to El Paso Fiber Optics Project - Intensive Cultural Resource Survey - San Bernardino and Riverside Counties, California | 1988 | Within |
| 07339 | Tang, Bai "Tom", Josh Smallwood, and Melissa Hernandez | Identification and Evaluation of Historic Properties: Wastewater Treatment Plant Expansion and Recycled Water System, City of Banning, Riverside, California | 2007 | 0 – 0.25 |
| 08012 | Roderic McLean, Shannon Carmack, Phil Fulton, Maria Aron, Jay Michalsky, Daniel Ewers, Casey Tibbet, and Brook Smith | Supplemental Cultural Resource Assessment, Oak Valley Substation Project, San Bernadino and Riverside Counties | 2008 | 0 – 0.25 |

| Report No. (RI-) | Author(s) | Title | Year | Distance (miles) from Project Area |
|---|---|---|---|---|
| 08449 | Bai "Tom" Tang, Michael Hogan, Josh Smallwood, and Terri Jacquemain | Cultural Resources Technical Report City of Banning General Plan | 2004 | Within |
| 09317 | Carrie D. Wills | Cultural Resources Records Search and Site Visit Results for Verizon Wireless Candidate 'Monroe', 1170 West Ramsey Street, Banning, Riverside County, California, EBI Project No. 61140883 | 2014 | 0 – 0.25 |
| 09540 | David Brunzell | Cultural Resources Assessment Rancho San Gorgonio Planned Community Project City of Banning, Riverside County, Riverside County, California | 2013 | 0.25 – 0.5 |

No cultural resources have been recorded within the Project Area (Appendix C, Table C-1). Outside of the Project Area a total of 34 cultural resources have been previously documented within the half-mile search radius from the Project Area (Appendix C, Table C-1). These consist of 13 historic built environment resources and one historic archaeological site within a quarter-mile of the Project Area, and 18 historic built environment resources and two historic archaeological sites within a quarter- to a half-mile of the Project Area.

## OTHER SOURCES

In addition to the EIC records search, a variety of sources were consulted in April 2023 to obtain information regarding the cultural context of the Project vicinity (Table 5). Sources included the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), Built Environment Resource Directory (BERD), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). Specific information about the Project Area, obtained from historic-era maps and aerial photographs, is presented in the Project Area History section.

**Table 5. Additional sources consulted**

| Source | Results |
|---|---|
| National Register of Historic Places (NRHP) | negative |
| Historic USGS Topographic Maps | see Project Area History section |
| Historic US Department of Agriculture Aerial Photographs | see Project Area History section |
| California Register of Historical Resources (CRHR) | negative |
| Built Environment Resource Directory (BERD) | negative |
| California Historical Landmarks (CHL) | negative |
| California Points of Historical Interest (CPHI) | negative |
| Bureau of Land Management (BLM) General Land Office Records | positive, see Table 6 |

**Table 6. Land Patents**

| Name | Year | Accession Number | Type | T; R; Section |
|---|---|---|---|---|
| Southern Pacific Railroad Company | 1866 | CACAAA 072566 | United States Land Grant | Township 2 South; Range 1 East; Section 9 |

In 1866, the Southern Pacific Railroad Company was given a United States government grant totaling 24,642.11 acres that included the Project Area.

### HISTORICAL SOCIETIES CONSULTATION

The San Gorgonio Pass Historical Society was contacted on April 13, 2023 via United States Postal Service certified mail, and on April 26, 2023 and May 5, 2023 via electronic mail (Appendix D). The Society acknowledged receipt of the requests, but no further response has been received.

### SACRED LANDS FILE SEARCH

Cogstone requested a Sacred Lands File (SLF) search from the Native American Heritage Commission (NAHC) on November 17, 2022. The NAHC responded on November 9, 2022, that the results of the search were negative (Appendix E). The City of Banning is responsible for consultations to meet the requirements of Assembly Bill 52 (AB 52).

## SURVEY

### METHODS

The survey stage is important in a Project's environmental assessment phase to verify the exact location of each identified cultural resource, the condition or integrity of the resource, and the proximity of the resource to areas of cultural resources sensitivity. All undeveloped ground surface areas within the ground disturbance portion of the Project Area were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). Existing ground disturbances (e.g., cutbanks, ditches, animal burrows, etc.) were visually inspected. Photographs of the Project Area, including ground surface visibility and items of interest, were taken with a digital camera.

Sandy Duarte and Christian Levine surveyed the entire Project Area on April 6, 2023, using five-meter wide transects (Figures 8, 9, and 10). Visibility was extremely poor (one percent or less)

due to dense weed groundcover resulting from recent heavy rains. When visible, sediments were consistent with geologic mapping by Dibblee and Minch (2003) and consisted of sand to gravel sized alluvial fan sediments (Figure 11).



**Figure 8. Project Area overview, view to the north**



**Figure 9. Project Area overview, view to the southeast**



**Figure 10. Project Area overview, view to the west**




**Figure 11. Sediments within Project Area**

## RESULTS

No cultural or paleontological resources were observed during the pedestrian survey.

# STUDY FINDINGS AND CONCLUSIONS

## PALEONTOLOGICAL SENSITIVITY

A multilevel ranking system has been developed by professional resource managers within the Bureau of Land Management (BLM) as a practical tool to assess the sensitivity of sediments for fossils. The Potential Fossil Yield Classification (PFYC) system (BLM 2016; Appendix F) has a multi-level scale based on demonstrated yield of fossils. The PFYC system provides additional guidance regarding assessment and management for different fossil yield rankings.

Fossil resources occur in geologic units (e.g., formations or members). The probability for finding significant fossils in a Project Area can be broadly predicted from previous records of fossils recovered from the geologic units present in and/or adjacent to the study area. The geological setting and the number of known fossil localities help determine the paleontological sensitivity according to PFYC criteria.

Sediments that are close to their basement rock source are typically coarse; those farther from the basement rock source are finer. The chance of fossils being preserved greatly increases once the average size of the sediment particles is reduced to 5 mm in diameter or less. Moreover, fossil preservation also greatly increases after natural burial in rivers, lakes, or oceans. Remains left on the ground surface become weathered by the sun or consumed by scavengers and bacterial activity, usually within 20 years or less. So the sands, silts, and clays of rivers, lakes, and oceans are the most likely sediments to contain fossils.

Using the PFYC system, geologic units are classified according to the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts within the known extent of the geological unit. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher PFYC value; instead, the relative abundance of localities is intended to be the major determinant for the value assignment.

Based on other recorded localities, Pleistocene fossils typically begin appearing about eight to ten feet deep in California valleys. Shallower sediments in the valleys usually do not contain the remains of extinct animals, although Holocene (less than 11,700 years old) remains may be present.

The late Pleistocene alluvial fan deposits of San Gorgonio Pass are assigned a moderate sensitivity (PFYC 3) based upon the age of the sediments and the documented presence of fossils from sediments of similar age near to the Project Area.

## CULTURAL RESOURCES SENSITIVITY

Based on a review of the results of the Sacred Lands File search, information from the EIC cultural records search, and review of USGS topographic quadrangle maps, the Project Area is assessed to have low sensitivity for buried prehistoric-aged cultural remains. Discoloration in

USDA aerial photographs taken after the removal of the farms indicates the possibility of incomplete removal after demolition of the farms. The Project Area is assessed to have low to moderately low potential for buried historic-aged deposits such as foundations or trash pits. The City of Banning General Plan (Banning and Terra Nova 2006:IV-58, Exhibit IV-6) assesses the cultural sensitivity of the Project Area to be low.

# RECOMMENDATIONS

## PALEONTOLOGICAL RESOURCES RECOMMENDATIONS

Based upon recorded fossil locality data in and near the Project Area, the late Pleistocene alluvial fan deposits of San Gorgonio Pass are here assigned a moderate paleontological sensitivity (PFYC 3). The Riverside County General Plan (County of Riverside 2015) listed this area as having an undetermined paleontological sensitivity, therefore, any fossils collected from this area would add to the understanding of the paleontological history of the area.

At present, based upon the potential for impacts to the late Pleistocene alluvial fan deposits of San Gorgonio Pass at depth within the Project Area, a Paleontological Resources Impact Mitigation Plan should be developed and implemented, which should include development of a paleontology Worker Environmental Awareness Program as well as paleontological monitoring.

In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until a qualified paleontologist can evaluate the find and make recommendations.

## CULTURAL RESOURCES RECOMMENDATIONS

Due to the low sensitivity for buried prehistoric-aged cultural deposits and low to moderately low sensitivity for buried historic-aged deposits, no additional work is required.

In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until a qualified archaeologist evaluates it. In the unlikely event that human remains are encountered during project development, all work must cease near the find immediately.

In accordance with California Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with

respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods. Work may not resume in the vicinity of the find until all requirements of the health and safety code have been met.

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# APPENDIX A. QUALIFICATIONS

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**MOLLY VALASIK**
QA/QC

**EDUCATION**

2009 M.A., Anthropology, Kent State University, Kent, Ohio
2006 B.A., Anthropology, Ohio State University, Columbus, Ohio

**SUMMARY OF QUALIFICATIONS**

Ms. Valasik is a Registered Professional Archaeologist (RPA) with more than 14 years of experience. She is a skilled professional who is well-versed in the compliance procedures of the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA) and regularly prepares cultural resources assessment reports for a variety of federal, state, and local agencies throughout California. Ms. Valasik has managed a variety of projects at Cogstone in the water, transportation, energy, development, and federal sectors. She meets the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation*. She is accepted as a principal investigator for prehistoric archaeology by the State Office of Historic Preservation's Information Centers.

**SELECTED EXPERIENCE**

**Creekside Specific Plan, City of San Juan Capistrano, Orange County, CA.** Cogstone conducted a study to determine the potential impacts to cultural and paleontological resources for the proposed demolition of an existing 123,000 square-foot building and construction of 188 residential units on 15.3 acres. Services included records searches, background research, and an intensive-level pedestrian survey. Based on the results of the record search and ethnographic data, it was found likely that substantive archaeological deposits exist. The project area was considered moderately sensitive for cultural and paleontological resources and archaeological and paleontological monitoring during all ground-disturbing activities was recommended. The City of San Juan Capistrano acted as lead CEQA agency. Sub to PlaceWorks. Principal Investigator for Archaeology. 2019-2020

**Fire Station 172 Project, Rancho Cucamonga Fire Protection District, San Bernardino County, CA.** Cogstone determined the potential effects of paleontological, archaeological, and historical resources on the proposed project. The project involved relocation of the Fire Station from 9612 San Bernardino Road to 8870 San Bernardino Road. Services included the management of record searches, a Sacred Lands File search, a pedestrian survey, and completion of a cultural resources assessment report. Sub to Michael Baker International. Principal Investigator for Archaeology. 2018

**La Verne General Plan Update, City of La Verne, Los Angeles County, CA.** Cogstone reviewed and summarized available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of La Verne to support an update of the City's General Plan. Cogstone conducted archaeological and paleontological record searches, extensive historical research at City Hall, a Sacred Lands File search was requested from the Native American Heritage Commission (NAHC), and a general analysis of impacts of future projects within the city that may adversely affect paleontological, archaeological, or historic resources was provided along with mitigation recommendations. Sub to De Novo. Principal Investigator for Archaeology. 2018

**Magnolia Avenue Improvements, Caltrans District 8, City of Riverside, Riverside County, CA.** For this local assistance project on behalf of the City of Riverside, the project involved producing an Archaeological Survey Report, Historical Resources Evaluation Report, and Historical Property Survey Report for Section 106 of the NHPA compliance. The City proposed widening Magnolia Avenue between Buchanan and Banbury by narrowing the existing median. Managed record search, Sacred Lands File search, Native American consultations, intensive-level pedestrian archaeological and architectural surveys, as well as coordination and approval by District 8 of an Area of Potential Effects (APE) map. The Historical Resources Evaluation Report included DPR series 523 forms for the evaluation of six properties all of which were determined not eligible for listing in the National Register. Sub to Michael Baker/PMC. Principal Investigator. 2016-2017

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**ERIC SCOTT**
Paleontology QA/QC

**EDUCATION**

1990 M.A., Anthropology (Biological), University of California, Los Angeles
1985 B.A., Anthropology (Physical), California State University, Northridge

**SUMMARY OF QUALIFICATIONS**

Mr. Scott is a professional vertebrate paleontologist with 39 years of experience in paleontological mitigation, fieldwork, curation, and research. He is an emeritus paleontology curator of the San Bernardino County Museum, an adjunct at California State University, San Bernardino, and a research associate of the Natural History Museum of Los Angeles County and the La Brea Tar Pits and Museum, where he was lead excavator of the Pit 91 excavation from 1985-1991. He is a 30+ year member of the Society of Vertebrate Paleontology, an international society of professional scientists where he currently serves on the Government Affairs Committee; he also holds membership in the Geological Society of America and other professional societies. Mr. Scott has published over 40 research articles in professional scientific journals.

**SELECTED EXPERIENCE**

**Purple Line Extension (Westside Subway), Sections 1 and 2, Metropolitan Transit Authority (METRO), Los Angeles, CA.** The project involves construction of seven stations from the existing Purple Line at Wilshire/Western Avenue along Wilshire Boulevard to the Veterans Administration Hospital in Westwood for 8.6 miles. Manages all paleontological services for Sections 1 and 2 of the subway project including budgets, Worker Environmental Awareness Program training, monitoring, fossil recovery, lab work, analysis, and reporting. Sub to JV West (Stantec/Jacobs JV) (Section 1), AECOM (Section 2). Program Manager. 2016-*ongoing*

**Los Angeles World Airports (LAWA) Ongoing Technical Support for Environmental, Mitigation Reporting, and Sustainability Issues Associated with LAWA Construction Projects, LAX, Los Angeles County, CA.** Cogstone conducted cultural and paleontological resources monitoring during proposed consolidation and modernization of existing facilities. The project involved redeveloping multiple facilities including hangars and associated structures for Delta Airlines and United Airlines, among others. Upon completion of monitoring, Cogstone prepared Cultural and Paleontological Resources Monitoring Compliance Reports. The City of Los Angeles acted as lead agency for the project. Sub to CDM Smith. Program Manager. 2019-2021

**Deep Soil Mixing Pilot Project, Community of Pacific Palisades, Los Angeles County, CA.** As part of an on-call contract with the Los Angeles Bureau of Engineering (LABOE), Cogstone provided cultural and paleontological resources monitoring as well as managed Native American monitoring during ground-disturbing activities. The City of Los Angeles was the lead agency under the California Environmental Quality Act. Monitoring for the Project was conducted in compliance with the Contingency Plan conditions for the Coastal Development Permit from the California Coastal Commission. No cultural or paleontological resources were identified. No further work was necessary. Sub to ICF. Principal Investigator for Paleontology. 2020

**Gates Canyon Stormwater Capture Project, unincorporated area of Calabasas, Los Angeles County, CA.** Cogstone conducted cultural and paleontological resources monitoring for 31 days during proposed improvements to Gates Canyon Park that will allow the capture and storage of stormwater runoff from an adjacent 105-acre residential area. Monitoring complied with program mitigation measures and as defined by the County of Los Angeles, Department of Public Works (LACDPW). LACDPW was the project proponent and acted as the lead agency under the California Environmental Quality Act. Sub to Aspen Environmental. Task Manager. 2019

**Eastside Reservoir Project (Diamond Valley Lake), City of Hemet, Riverside County, CA.** The project developed southern California's largest freshwater reservoir. Paleontological monitoring and mitigation provided by San Bernardino County Museum. Supervised fieldwork, conducted and supervised lab work, wrote weekly, annual, and final reports. Paleontology Curator, Field Supervisor, and Report Author. 1993-2003

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**JOHN GUST**
Principal Investigator for Archaeology and Task Manager

**EDUCATION**

2016 Ph.D., Department of Anthropology, University of California, Riverside (UCR)
2011 M.A., Department of Anthropology, UCR
2007 M.A., Applied Geography, University of Colorado, Colorado Springs (UCCS)
2002 B.A., Department of Anthropology, minor in Geography/Environmental Studies, UCCS

**SUMMARY OF QUALIFICATIONS**

Dr. Gust is a Registered Professional Archaeologist (RPA) with over 11 years of experience in field archaeology. He meets the qualifications required by the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation and his field expertise includes pedestrian surveys, excavation monitoring, resource recording, and historic artifact analysis. Dr. Gust has managed a variety of projects at Cogstone in the water, development, residential, transportation, telecommunications, and public works sectors. Dr. Gust is a member of the Society for California Archaeology, Society for American Archaeology, and the American Anthropological Association.

**SELECTED EXPERIENCE**

**University of California Natural Reserve System San Joaquin Marsh Reserve Water Conveyance and Drainage Improvement Project, City of Irvine, Orange County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources for the proposed long-term water management improvements and habitat value of the Marsh Reserve. Services included pedestrian survey, records searches, Sacred Lands File search from the Native American Heritage Commission, background research, and reporting. Due to the proximity of the project to the San Diego Creek, the project required a Clean Water Act Section 404 permit from the United States Army Corps of Engineers (USACE) and Section 106 National Historic Preservation Act (NHPA) compliance. University of California acted as the lead California Environmental Quality Act (CEQA) agency and USACE acted as lead agency under the National Environmental Protection Act. Sub to Moffat & Nichol. Principal Investigator for Archaeology. 2020-2021

**Dogwood Road Project, City of El Centro, Imperial County, CA.** Cogstone conducted a cultural resources assessment to determine the potential effects to cultural resources resulting from the construction of United States Department of Agriculture Part 70-B RD Funding assisted housing on a 2.2-acre parcel. Cogstone conducted a record search, pedestrian survey, and determined that no further cultural resources work was necessary. The assessment provided environmental documentation as required by Section 106 of NHPA and CEQA. The City of El Centro acted as the lead agency. Sub to Partner Science & Engineering, Inc. Principal Investigator for Archaeology. 2019-2020

**Jackson St HUD 58 EA Project, City of Riverside, Riverside County, CA.** Cogstone conducted a cultural resources assessment to determine the potential effects to cultural resources resulting from the construction of United States Department of Housing and Urban Development assisted housing on a 3.58-acre parcel. This assessment provided environmental documentation as required by Section 106 of NHPA. The City of Riverside was the lead agency. Cogstone conducted a records search, a Sacred Lands File Search, a pedestrian survey, and produced a report. Sub to Partner Science & Engineering. Principal Investigator for Archaeology and Report Author. 2019

**Corona Affordable Housing Monitoring Project, City of Corona, Riverside County, CA.** Cogstone conducted cultural and paleontological resources monitoring, analyzed recovered artifacts, and prepared a monitoring compliance report during grading for the development of affordable multi-family apartment buildings. Conducted lab work and artifact analysis. Sub to C&C Development. Archaeology Supervisor and Report Author. 2018-2019

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**KIM SCOTT**
Principal Investigator for Paleontology

**EDUCATION**

2013 M.S., Biology with a paleontology emphasis, California State University, San Bernardino
2000 B.S., Geology with paleontology emphasis, University of California, Los Angeles

**TRAINING AND CERTIFICATIONS**

Trained and certified in geomorphology techniques, National Park Service, National Center for Preservation Technology and Training

**SUMMARY OF QUALIFICATIONS**

Ms. Scott has 28 years of experience in California as a paleontologist and sedimentary geologist. She has worked extensively in the field surveying, monitoring, and salvaging fossils on hundreds of projects. In addition, she has special skills in jacketing large fossils, fossil preparation (cleaning and stabilization) and in the preparation of stratigraphic sections and other documentation for fossil localities. She frequently authors paleontological assessments, paleontological mitigation plans, and monitoring compliance reports to all agency requirements. Ms. Scott authors and conducts crew sensitivity training, serves as company safety officer, and has authored both the company safety and paleontology manuals.

**SELECTED EXPERIENCE**

**Purple Line Extension (Westside Subway), Sections 1 and 2, Metropolitan Transit Authority (METRO), Los Angeles, CA.** The project involves construction of seven stations from the existing Purple Line at Wilshire/Western Avenue along Wilshire Boulevard to the Veterans Administration Hospital in Westwood for 8.6 miles. Manages all paleontological services for Sections 1 and 2 of the subway project including budgets, Worker Environmental Awareness Program training, monitoring, fossil recovery, lab work, analysis, and reporting. Sub to JV West (Stantec/Jacobs JV) (Section 1), AECOM (Section 2). Principal Investigator for Paleontology. 2014-*ongoing*

**Bell Gardens Water Reservoir Project, City of Bell Gardens, Los Angeles County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during improvements which included a new two-million-gallon reservoir, booster pump station, well to be drilled, and other components. Services included record searches, Sacred Lands File search from the Native American Heritage Commission, and an intensive-pedestrian survey of the 1.7-acre project area. Sub to Infrastructure Engineers. Principal Investigator for Paleontology. 2019-2020

**Corona Affordable Housing Monitoring Project, City of Corona, Riverside County, CA.** Cogstone conducted cultural and paleontological resources monitoring, analyzed recovered artifacts, and prepared a monitoring compliance report during grading for the development of affordable multi-family apartment buildings. Conducted lab work and artifact analysis. Sub to C&C Development. Principal Investigator for Paleontology. 2018-2019

**Fire Station 172 Project, Rancho Cucamonga Fire Protection District, San Bernardino County, CA.** Cogstone determined the potential effects of paleontological, archaeological, and historical resources on the proposed project. The project involved relocation of the Fire Station from 9612 San Bernardino Road to 8870 San Bernardino Road. Services included the management of record searches, a Sacred Lands File search, a pedestrian survey, and completion the cultural resources assessment report. Sub to Michael Baker International. Principal Investigator for Paleontology. 2018

**San Bernardino Countywide On-Call Services, San Bernardino, CA.** As prime contractor, Cogstone provided cultural, historical, and paleontological resource services for short term projects. Task services included cultural resources assessments and monitoring in compliance with CEQA, NEPA, Section 106 of the National Historic Preservation Act, and County regulations. Short-term projects included Pioneertown and other roads, Bear Springs, Aldorf Road, Elder Creek, NTH Bridges, Marshall Boulevard, Cajon Creek, Dola Bridge, Lanzit Ditch, and Luna Road. Principal Investigator for Paleontology. 2016-2017

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**SANDY DUARTE**
Field Archaeologist and Report Co-Author

**EDUCATION**

2002 B.A., Cultural Anthropology, University of California, Santa Barbara

**TRAINING AND CERTIFICATIONS**

HAZWOPER Certified - Certified American Red Cross CPR; Certified American Red Cross Standard First Aid
Applied Archaeology of Southern California, USDA Forest Service, San Bernardino National Forest
Railroad Security Certified

**SUMMARY OF QUALIFICATIONS**

Ms. Duarte is a paleontologist and archaeologist with over 19 years of experience in paleontological and archaeological monitoring, surveying, and excavation in southern California. Ms. Duarte has experience with Native American consultation as required by Section 106 of the National Historic Preservation Act and under Senate Bill 18 for the protection and management of cultural resources. Beginning in 2006, Ms. Duarte worked for the U.S. Forest Service in the Biology, Timber, and Geology Department as an archaeologist, including serving as a trained wild-land firefighter to preserve archaeological sites from forest fires. Additional skills include paleontological identification, fossil preparation, artifact identification and preparation, and final report preparation.

**SELECTED EXPERIENCE**

**Santiago Canyon Estates Fuel Mod Project, unincorporated Orange County, CA.** Cogstone conducted a cultural resources assessment to determine the potential for surface cultural resources for compliance with Orange County Fire Authority's Precise Fuel Modification Plan for zones of the Santiago Canyon Estates Community. Services included a cultural resources records search, Sacred Lands File search from the Native American Heritage Commission and conducted a reconnaissance survey. Sub to Fire Safe Council East Orange County Canyons. Archaeologist/Co-Author. 2020

**Newport Village Project, City of Newport Beach, Orange County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during proposed construction of 14 residential condominium units, 108 apartment units, and 121,370 square feet of mixed-use development. The project would also have publicly accessible waterfront promenade with 844 parking spaces in surface-level and subterranean parking. Services included records searches, pedestrian survey, Sacred Lands File search from the Native American Heritage Commission, background research, and reporting. The City of Newport Beach acted as the lead agency under the California Environmental Quality Act. Sub to Cox, Castle & Nicholson LLP. Archaeologist. 2019-2020

**Prologis Vermont Avenue and Redondo Beach Industrial Project, City of Los Angeles, Los Angeles County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during proposed construction of an industrial center, 223 automobile parking spaces, 32 bicycle parking spaces, 36 high truck loading positions, and parking stalls for truck trailers. Services included records searches, pedestrian survey, Sacred Lands File search from the Native American Heritage Commission, background research, and reporting. The City of Los Angeles acted as the lead agency under the California Environmental Quality Act. Sub to PlaceWorks. Archaeologist. 2019-2020

**Cannon Serrano Intersection Widening Project, City of Orange, Orange County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during proposed road improvements. Services included records searches, pedestrian survey, Sacred Lands File search from the Native American Heritage Commission, background research, and reporting. The City of Orange acted as the lead agency under the California Environmental Quality Act. Sub to Michael Baker. Archaeologist. 2019-2020

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**KELLY VREELAND**
Paleontologist and Co-Author

**EDUCATION**

2014 M.S., Geology, California State University, Fullerton
2010 B.S., Geology, California State University, Fullerton

**SUMMARY OF QUALIFICATIONS**

Ms. Vreeland is a Paleontologist with over 12 years of experience in field paleontology. Her field and laboratory experience includes fieldwork and research projects throughout California and Nevada, as well as conducting fieldwork and surficial geologic mapping in Montana. Ms. Vreeland has expertise in invertebrate paleontology and paleoecology. She is a member of the Geological Society of America, the Paleontological Society, the Society for Sedimentary Geology, and the Association for Women in Geoscience.

**SELECTED EXPERIENCE**

**State Route 60 Truck Lanes Project, RCTC, Caltrans District 8, City of Banning, Riverside County, CA.** RCTC in cooperation with Caltrans proposed to construct an eastbound truck-climbing lane and westbound truck-descending lane – along with inside and outside standard shoulders in both directions. The total length of the project is 4.51 miles. A combined Paleontological Identification Report and Paleontological Evaluation Report found a high likelihood for this project to impact paleontological resources. Mitigation measures included a Paleontological Mitigation Plan which included requiring a paleontological Worker Environmental Awareness Program training, signed repository agreement with the San Bernardino County Museum, monitoring by a principal paleontologist, and defined standard field and laboratory methods. Cogstone is providing paleontological monitoring. At the end of construction, Cogstone will prepare a Paleontological Monitoring Report. Caltrans is the lead agency under the National Historic Preservation Act and the California Environmental Quality Act. Sub to ECORP. Supervisor. 2020-*ongoing*

**University of California Natural Reserve System San Joaquin Marsh Reserve Water Conveyance and Drainage Improvement Project, City of Irvine, Orange County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources for the proposed long-term water management improvements and habitat value of the Marsh Reserve. Services included pedestrian survey, records searches, Sacred Lands File search from the Native American Heritage Commission, background research, and reporting. Due to the proximity of the project to the San Diego Creek, the project required a Clean Water Act Section 404 permit from the United States Army Corps of Engineers (USACE) and Section 106 National Historic Preservation Act compliance. University of California acted as the lead California Environmental Quality Act agency and USACE acted as lead agency under the National Environmental Protection Act. Sub to Moffat & Nichol. Paleontology Supervisor. 2020-2021

**Los Angeles World Airports (LAWA) United Airlines East Maintenance Hangar and Ground Support Equipment Project, LAX, Los Angeles County, CA.** Cogstone conducted cultural and paleontological monitoring during the proposed consolidation and modernization of existing facilities. The project intended to redevelop an approximately 35-acre site. Planned vertical impacts were up to 6 feet deep for footings, at least 10.5 feet for stormwater detention, and 50 to 70 feet deep for auguring. Upon completion of monitoring, Cogstone prepared a Cultural and Paleontological Resources Monitoring Compliance Report. The City of Los Angeles acted as lead agency for the project. Sub to CDM Smith. Paleontology Supervisor. 2020-2021

**Jack Ranch San Luis Obispo Agricultural Cluster Project, City of San Luis Obispo, San Luis Obispo County, CA.** Cogstone prepared a cultural and paleontological assessment to propose effective mitigation of potential adverse impacts to paleontological resources resulting from a proposed subdivision of a 299-acre property into 13 residential lots as well as a Conditional Use Permit to allow for a Major Agricultural Cluster project. Cogstone provided archaeological and paleontological monitoring and submitted a Cultural and Paleontological Resources Monitoring Compliance Report upon completion. Sub to Kirk Consulting. Paleontology Supervisor. 2020-2021

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**LOGAN FREEBERG**
GIS Supervisor

**EDUCATION**

2018 Geographic Information Systems (GIS) Certificate, California State University, Fullerton
2003 B.A., Anthropology, University of California, Santa Barbara

**SUMMARY OF QUALIFICATIONS**

Mr. Freeberg has over 20 years of experience in cultural resource management and has extensive experience in field surveying, data recovery, monitoring, and excavation of archaeological and paleontological resources associated with land development projects in the private and public sectors. He has conducted all phases of archaeological work, including fieldwork, laboratory analysis, research, and reporting. Mr. Freeberg also has a strong grounding in conventional field and laboratory methods and is skilled in the use of ArcGIS.

**SELECTED EXPERIENCE**

**New Cuyama Dump Sites 1, 2, and 3, BLM Bakersfield Office, Santa Barbara County, CA.** The Project involved identifying archaeological and historical resources present within three illegal dump sites on BLM land. This study included an assessment of the historic potential of dump refuse and National Register of Historic Places eligibility recommendations for debris demonstrating affirmative evidence for an age of greater than 45 years. A Class III Cultural Resources survey was conducted and included an intensive-level pedestrian survey of the Area of Potential Effect and a total of three historic trash scatters were identified during the survey and a total of four historic isolates were identified. These resources were recorded on Department of Parks and Recreation 523 (DPR 523) forms. No archaeological sites or isolates were identified. No artifacts were collected. The deliverables were accepted by the BLM without revisions. Archaeologist and GIS Supervisor. 2020-2021

**University of California Natural Reserve System San Joaquin Marsh Reserve Water Conveyance and Drainage Improvement Project, City of Irvine, Orange County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources for the proposed long-term water management improvements and habitat value of the Marsh Reserve. Services included pedestrian survey, records searches, Sacred Lands File search from the Native American Heritage Commission, background research, and reporting. Due to the proximity of the project to the San Diego Creek, the project required a Clean Water Act Section 404 permit from the United States Army Corps of Engineers (USACE) and Section 106 National Historic Preservation Act compliance. University of California acted as the lead California Environmental Quality Act agency and USACE acted as lead agency under the National Environmental Protection Act. Sub to Moffat & Nichol. GIS Supervisor. 2020-2021

**Bell Gardens Water Reservoir Project, City of Bell Gardens, Los Angeles County, CA.** Cogstone conducted a cultural and paleontological resources assessment to determine the potential impacts to cultural and paleontological resources during improvements which included a new two-million-gallon reservoir, booster pump station, well to be drilled, and other components. Services included record searches, Sacred Lands File search from the Native American Heritage Commission, and an intensive-pedestrian survey of the 1.7-acre project area. Sub to Infrastructure Engineers. GIS Supervisor. 2019-2020

**Dogwood Road Project, City of El Centro, Imperial County, CA.** Cogstone conducted a cultural resources assessment to determine the potential effects to cultural resources resulting from the construction of United States Department of Agriculture Part 70-B RD Funding assisted housing on a 2.2-acre parcel. Cogstone conducted a records search, pedestrian survey, and determined that no further cultural resources work was necessary. The assessment provided environmental documentation as required by Section 106 of the National Historic Preservation Act and the California Environmental Quality Act. The City of El Centro acted as the lead agency. Sub to Partner Science & Engineering, Inc. GIS Supervisor. 2019-2020

# APPENDIX B. PALEONTOLOGICAL RECORD SEARCH

# APPENDIX C. CULTURAL RESOURCES WITHIN ONE HALF MILE OF PROJECT AREA

**Table C-1. Previously recorded cultural resources within a half mile radius of the Project Area**

| Primary No. (P-33-) | Trinomial No. (CA-RIV-) | Resource Type | Resource Description | Year Recorded | Distance (miles) From Project Area | NRHP/CRHR Status |
|---|---|---|---|---|---|---|
| 009120 | | Historic Built Environment | Single family residence. 899 W. Hays. Vernacular architectural style. 1925 | 1983 | 0.25 – 0.5 | Historically significant by local government |
| 009121 | | Historic Built Environment | Single family residence. 1015 W. Hays. Vernacular/Pueblo Revival architectural style. 1925 | 1983 | 0.25 – 0.5 | Historically significant by local government |
| 009122 | | Historic Built Environment | Single family residence. 1067 W. Hays. Vernacular architectural style. 1925 | 1983 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 009150 | | Historic Built Environment | Single family residence. 1222 W. Lincoln. Vernacular architectural style. 1925 | 1983 | 0 – 0.25 | Historically significant by local government |
| 009158 | | Historic Built Environment | Single family residence. 933 ½ W. Ramsey. Bungalow architectural style. 1915 | 1983 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 009159 | | Historic Built Environment | Single family residence. 1025 W. Ramsey. Vernacular/Bungalow architectural style. 1915 | 1983 | 0 – 0.25 | NR/CR - Recommended Ineligible |
| 009161 | | Historic Built Environment | Single family residence. 1231 W. Ramsey. Bungalow architectural style. 1920 | 1983 | 0 – 0.25 | Historically significant by local government |
| 009498 | 006381 | Historic Archaeological Site | Segment of Union Pacific Railroad tracks. | 1966, 2003, 2005, 2009, 2012, 2015, 2016, 2017 | 0 – 0.25 | NR/CR - Recommended Ineligible |

| Primary No. (P-33-) | Trinomial No. (CA-RIV-) | Resource Type | Resource Description | Year Recorded | Distance (miles) From Project Area | NRHP/CRHR Status |
|---|---|---|---|---|---|---|
| 014367 | 007816 | Historic Archaeological Site | Site consists of two foundations, brick structures, a concrete trough and a concrete octagonal pad. | 2004, 2015 | 0.25 – 0.5 | Unevaluated |
| 015809 | | Historic Built Environment | Single family residence. 1380 W. Lincoln. California Ranch architectural style. 1950 | 2006 | 0 – 0.25 | NR/CR - Recommended Ineligible |
| 015810 | | Historic Built Environment | Single family residence. 1430 W. Lincoln. California Ranch architectural style. 1950 | 2006 | 0 – 0.25 | NR/CR - Recommended Ineligible |
| 015811 | | Historic Built Environment | Single family residence. 1476 W. Lincoln. Unknown architectural style. 1947 | 2006 | 0 - 0.25 | NR/CR - Recommended Ineligible |
| 015812 | | Historic Built Environment | Single family residence. 1476 W. Lincoln. California Ranch architectural style. 1950 | 2006 | 0 – 0.25 | NR/CR - Recommended Ineligible |
| 015813 | | Historic Built Environment | Single family residence. 1617 W. Lincoln. Spanish Eclectic architectural style. 1946 | 2006 | 0 – 0.25 | NR/CR - Recommended Ineligible |
| 015814 | | Historic Built Environment | Single family residence. 1661 W. Lincoln. Vernacular architectural style. 1947 | 2006 | 0 – 0.25 | NR/CR - Recommended Ineligible |
| 015815 | | Historic Built Environment | Single family residence. 1692 W. Lincoln. California Ranch architectural style. 1959 | 2006 | 0 – 0.25 | NR/CR - Recommended Ineligible |
| 015816 | | Historic Built Environment | Single family residence. 1706 W. Lincoln. California Ranch architectural style. 1953 | 2006 | 0 – 0.25 | NR/CR - Recommended Ineligible |

| Primary No. (P-33-) | Trinomial No. (CA-RIV-) | Resource Type | Resource Description | Year Recorded | Distance (miles) From Project Area | NRHP/CRHR Status |
|---|---|---|---|---|---|---|
| 015817 | | Historic Built Environment | Single family residence. 1722 W. Lincoln. California Ranch architectural style. 1960 | 2006 | 0 – 0.25 | NR/CR - Recommended Ineligible |
| 015818 | | Historic Built Environment | Single family residence. 2005 W. Lincoln. California Ranch architectural style. 1956 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015819 | | Historic Built Environment | Single family residence. 2008 W. Lincoln. California Ranch architectural style. 1959 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015820 | | Historic Built Environment | Single family residence. 2025 W. Lincoln. Craftsman Bungalow architectural style. 1921 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015821 | | Historic Built Environment | Single family residence. 2028 W. Lincoln. California Ranch architectural style. 1959 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015822 | | Historic Built Environment | Single family residence. 2044 W. Lincoln. California Ranch architectural style. 1961 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015823 | | Historic Built Environment | Single family residence. 2049 W. Lincoln. California Ranch architectural style. 1957 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015824 | | Historic Built Environment | Single family residence. 2071 W. Lincoln. California Ranch architectural style. 1950 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015825 | | Historic Built Environment | Single family residence. 2080 W. Lincoln. California Ranch architectural style. 1961 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |

| Primary No. (P-33-) | Trinomial No. (CA-RIV-) | Resource Type | Resource Description | Year Recorded | Distance (miles) From Project Area | NRHP/CRHR Status |
|---|---|---|---|---|---|---|
| 015826 | | Historic Built Environment | Single family residence. 2102 W. Lincoln. California Ranch architectural style. 1961 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015827 | | Historic Built Environment | Single family residence. 2120 W. Lincoln. California Ranch architectural style. 1961 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015828 | | Historic Built Environment | Single family residence. 2131 W. Lincoln. California Ranch architectural style. 1947 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015829 | | Historic Built Environment | Single family residence. 2148 W. Lincoln. California Ranch architectural style. 1960 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015830 | | Historic Built Environment | Single family residence. 2148 W. Lincoln. California Ranch architectural style. 1961 | 2006 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015831 | | Historic Built Environment | Single family residence. 2148 W. Lincoln. California Ranch architectural style. 1961 | 2006, 2009 | 0.25 – 0.5 | NR/CR - Recommended Ineligible |
| 015849 | 008229 | Historic Archaeological Site | Remnants of historic residence dating to pre-1940's. Site consisting of a concrete structure pad, fence line and historic trash scatter. | 2007 | 0.25 – 0.5 | Not Evaluated |
| 025807 | | Historic Archaeological Site | Deposit of structural concrete and masonry rubble containing rebar. | 2013 | 0.25 – 0.5 | Not Evaluated |

# APPENDIX D. HISTORIC CONSULTATION



cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

April 13, 2023

San Gorgonio Pass Historical Society
P.O. Box 331
Beaumont, CA 92223

RE: Cultural Resources Assessment for the Brown Strauss Industrial Project, City of Banning, Riverside County, California.

To Whom It May Concern:

As a sub-consultant to Placeworks, Cogstone Resource Management, Inc. (Cogstone) is conducting a cultural resources assessment for the Brown Strauss Industrial Project (Project) located on 14.92 acres within Assessor Parcel Numbers (APNs) 540-180-020, -022 and -026 located at 1219 and 1431 West Lincoln Street in the City of Banning, Riverside County, California.

The Project involves the development of 14.92 gross acres of vacant land to construct a steel manufacturing and distribution facility. The total development proposal includes a 45,000 square foot (SF) warehouse, a 3,000 SF office, two 500 SF enclosed saw sheds, and an outdoor storage yard. The Project entitlements will require a General Plan amendment, zone change, and parcel merger.

We are contacting you because we would like to invite members of the San Gorgonio Pass Historical Society to provide input regarding the redevelopment of the Project area. We appreciate any information regarding the history of the Project area that you may have as well as any comments, issues, and/or concerns relating to the history of the Project area. Please contact me at slopez@cogstone.com or at (714) 974-8300. Thank you for your attention to this matter.

Sincerely,

Shannon Lopez

Shannon Lopez, M.A.
Architectural Historian
(714) 974-8300 x.108
slopez@cogstone.com

1518 West Taft Avenue
Orange, CA 92865
Office [714] 974-8300

Branch Offices
San Diego - Riverside - Morro Bay - Sacramento

cogstone.com
Toll free [888] 333-3212

Federal Certifications EDWOSB, SDB
State Certifications DBE, WBE, UDBE

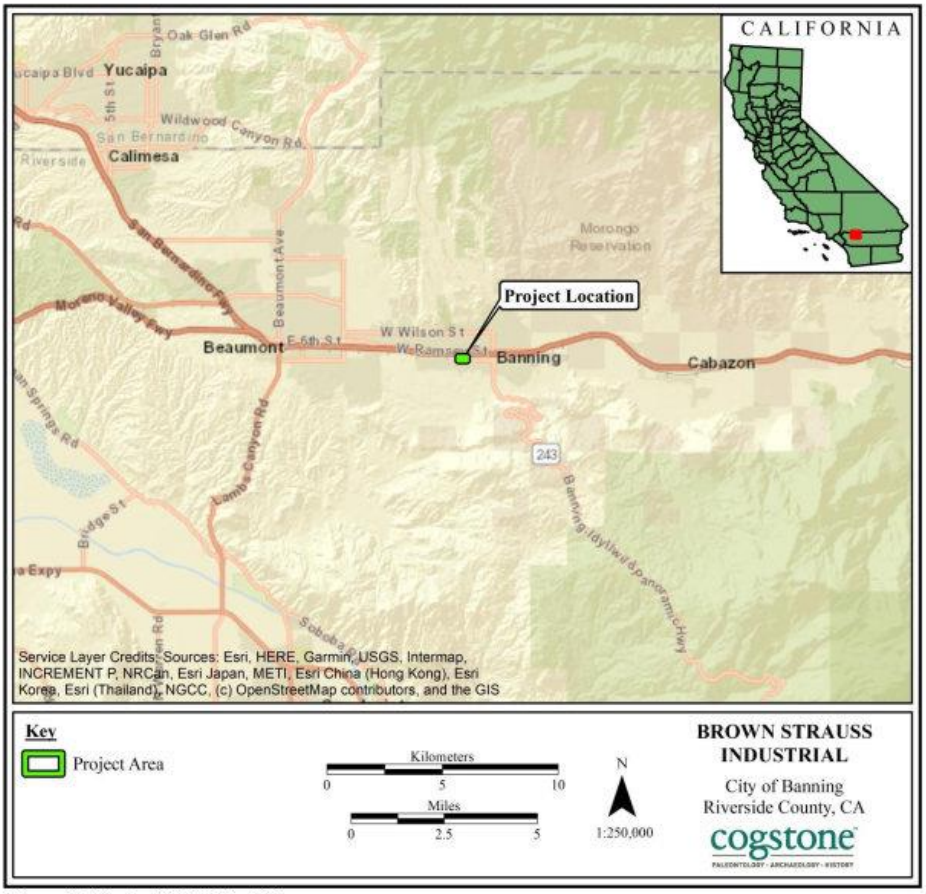


**Figure 1. Project Vicinity Map**

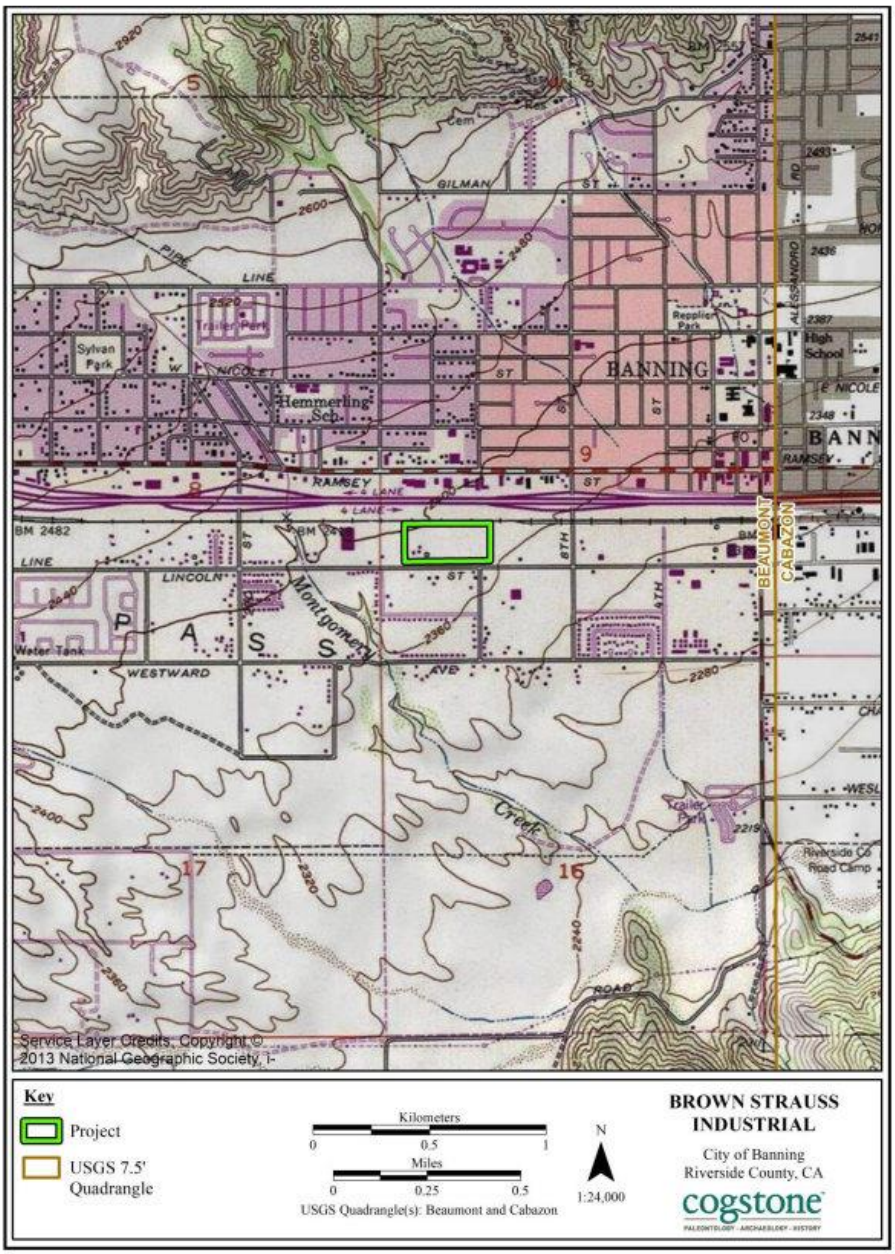


**Figure 2. Project Location Map**

cogstone.com

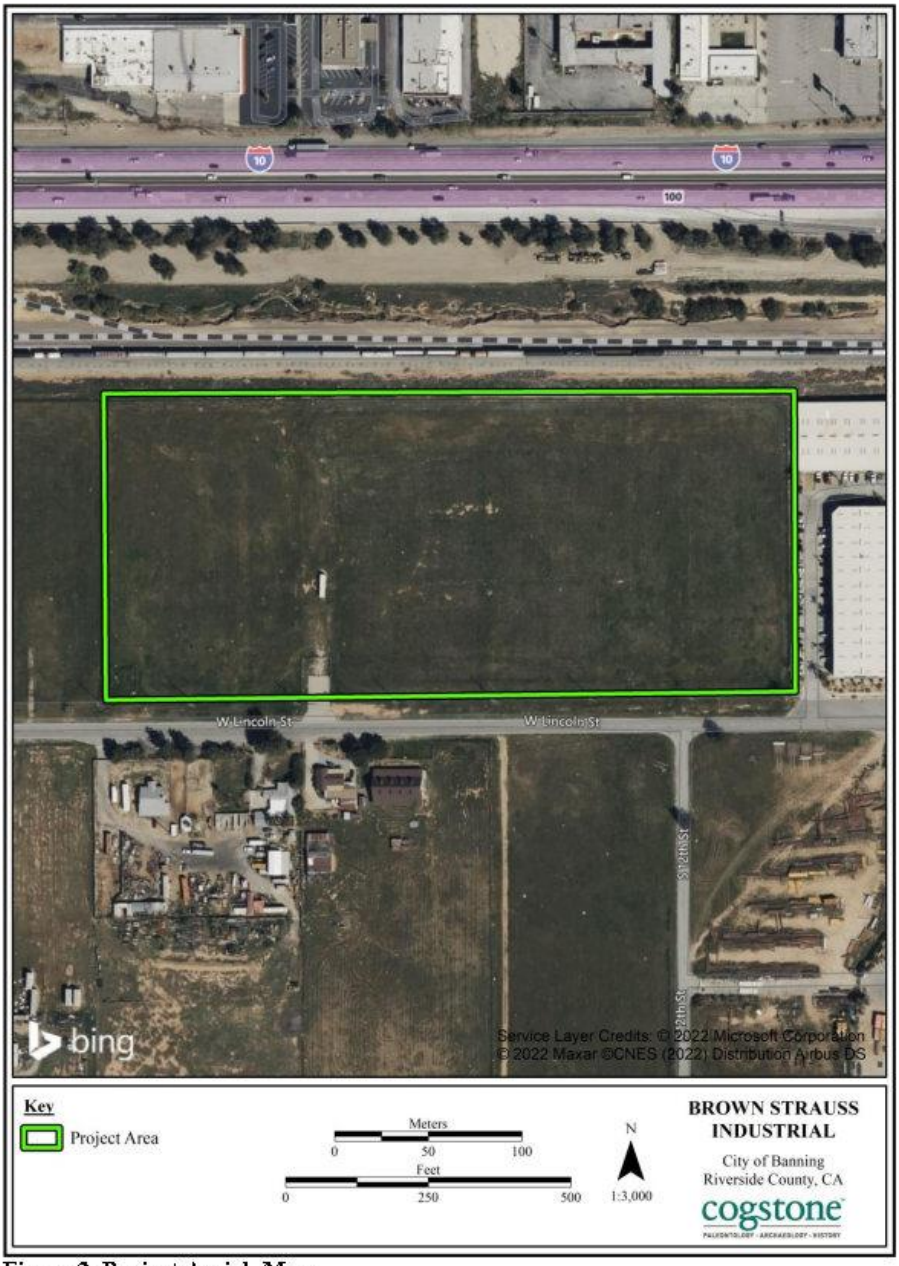


**Figure 3. Project Aerial Map**

# APPENDIX E. SACRED LANDS FILE SEARCH

STATE OF CALIFORNIA — Gavin Newsom, Governor

# NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
**Laura Miranda**
*Luiseño*

VICE CHAIRPERSON
**Reginald Pagaling**
*Chumash*

SECRETARY
**Sara Dutschke**
*Miwok*

COMMISSIONER
**Isaac Bojorquez**
*Chlone-Costanoan*

COMMISSIONER
**Buffy McQuillen**
*Yokayo Pomo, Yuki, Nomlaki*

COMMISSIONER
**Wayne Nelson**
*Luiseño*

COMMISSIONER
**Stanley Rodriguez**
*Kumeyaay*

COMMISSIONER
**[Vacant]**

COMMISSIONER
**[Vacant]**

EXECUTIVE SECRETARY
**Raymond C. Hitchcock**
*Miwok/Nisenan*

**NAHC HEADQUARTERS**
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

December 9, 2022

Cogstone Resource Management

Via Email to: cogstoneconsult@cogstone.com

**Re: Brown Strauss Industrial Project, Riverside County**

To Whom It May Concern:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
*Cultural Resources Analyst*

Attachment

Page 1 of 1

**Native American Heritage Commission**
**Native American Contact List**
**Riverside County**
**12/9/2022**

***Agua Caliente Band of Cahuilla Indians***
Reid Milanovich, Chairperson

***Agua Caliente Band of Cahuilla Indians***
Patricia Garcia-Plotkin, Director

***Augustine Band of Cahuilla Mission Indians***
Amanda Vance, Chairperson

***Cabazon Band of Mission Indians***
Doug Welmas, Chairperson

***Cahuilla Band of Indians***
Daniel Salgado, Chairperson

***Los Coyotes Band of Cahuilla and Cupeño Indians***
Ray Chapparosa, Chairperson

***Morongo Band of Mission Indians***
Robert Martin, Chairperson

***Morongo Band of Mission Indians***
Ann Brierty, THPO

***Quechan Tribe of the Fort Yuma Reservation***
Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee

***Quechan Tribe of the Fort Yuma Reservation***
Jill McCormick, Historic Preservation Officer

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Brown Strauss Industrial Project, Riverside County.

PROJ-2022-007423 | 12/09/2022 12:11 PM | 1 of 2

**Native American Heritage Commission**
**Native American Contact List**
**Riverside County**
**12/9/2022**

***Ramona Band of Cahuilla***
Joseph Hamilton, Chairperson

***Ramona Band of Cahuilla***
John Gomez, Environmental Coordinator

***San Manuel Band of Mission Indians***
Jessica Mauck, Director of Cultural Resources

***Santa Rosa Band of Cahuilla Indians***
Lovina Redner, Tribal Chair

***Serrano Nation of Mission Indians***
Mark Cochrane, Co-Chairperson

***Serrano Nation of Mission Indians***
Wayne Walker, Co-Chairperson

***Soboba Band of Luiseno Indians***
Isaiah Vivanco, Chairperson

***Soboba Band of Luiseno Indians***
Joseph Ontiveros, Cultural Resource Department

***Torres-Martinez Desert Cahuilla Indians***
Cultural Committee,

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Brown Strauss Industrial Project, Riverside County.

PROJ-2022-007423 | 12/09/2022 12:11 PM | 2 of 2

# APPENDIX F. PALEONTOLOGICAL SENSITIVITY RANKING CRITERIA

| **PFYC Description Summary (BLM 2016)** |
|---|
| **Very Low**. The occurrence of significant fossils is non-existent or extremely rare. Includes igneous (excluding air-fall and reworked volcanic ash units), metamorphic, or Precambrian rocks. Assessment or mitigation of paleontological resources is usually unnecessary except in very rare or isolated circumstances that result in the unanticipated presence of fossils. |
| **Low**. Sedimentary geologic units that are unlikely to contain vertebrate or scientifically significant nonvertebrate fossils. Includes rock units less than 10,000 years old and sediments with significant physical and chemical changes (e.g., diagenetic alteration) which decrease the potential for fossil preservation. Assessment or mitigation of paleontological resources is not likely to be necessary. |
| **Moderate.** Units are known to contain vertebrate or scientifically significant nonvertebrate fossils, but these occurrences are widely scattered and/or of low abundance. Common invertebrate or plant fossils may be found, and opportunities may exist for casual collecting. Paleontological mitigation strategies will be based on the nature of the proposed activity.<br>Management considerations cover a broad range of options that may include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Surface-disturbing activities may require assessment by a qualified paleontologist to determine whether significant paleontological resources occur in the area of a proposed action, and whether the action could affect the paleontological resources. |
| **High**. Geologic units containing a high occurrence of significant fossils. Fossils must be abundant per locality. Vertebrates or scientifically significant invertebrate or plant fossils are known to occur and have been documented, but may vary in occurrence and predictability.<br>Mitigation plans must consider the nature of the proposed disturbance, such as removal or penetration of protective surface alluvium or soils, potential for future accelerated erosion, or increased ease of access that could result in looting. Detailed field assessment is normally required and on-site monitoring or spot-checking may be necessary during land disturbing activities. In some cases avoidance of known paleontological resources may be necessary. |
| **Very High.** Highly fossiliferous geologic units that consistently and predictably produce vertebrate or scientifically significant invertebrate or plant fossils. Vertebrate fossils or scientifically significant invertebrate fossils are known or can reasonably be expected to occur in the impacted area. Paleontological resources are highly susceptible to adverse impacts from surface disturbing activities.<br>Paleontological mitigation may be necessary before or during surface disturbing activities. The area should be assessed prior to land tenure adjustments. Pre-work surveys are usually needed and on-site monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered. |
| **Unknown.** An assignment of "Unknown" may indicate the unit or area is poorly studied and field studies are needed to verify the presence or absence of paleontological resources. The unit may exhibit features or preservational conditions that suggest significant fossils could be present, but little information about the actual unit or area is known.<br>Literature searches or consultation with professional colleagues may allow an unknown unit to be provisionally assigned to another Class, but the geological unit should be formally assigned to a Class after adequate survey and research is performed to make an informed determination. |
| **Water or Ice.** Typically used only for areas which have been covered thus preventing an examination of the underlying geology. |

GEOTECHNICAL INVESTIGATION

PROPOSED BROWN-STRAUSS STEEL FACILITY

1210 & 1431 WEST LINCOLN STREET

APN 540-180-020, 022 & 026

BANNING, CALIFORNIA

-Prepared By-

Sladden Engineering

450 Egan Avenue
Beaumont, California 92223
(951) 845-7743

# Sladden Engineering

45090 Golf Center Parkway, Suite F, Indio, CA 92201 (760) 863-0713 Fax (760) 863-0847
6782 Stanton Avenue, Suite C, Buena Park, CA 90621 (714) 523-0952 Fax (714) 523-1369
**450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863**
www.sladdenengineering.com


January 5, 2023

Project No. 644-22060
22-12-145

Bremco Construction, Inc.
3470 East Spring Street
Long Beach, California 90806

Subject: Geotechnical Investigation

Project: Proposed Brown-Strauss Steel Facility
1210 & 1431 West Lincoln Street
APN 540-180-020, 022 & 026
Banning, California

Sladden Engineering is pleased to present the results of our geotechnical investigation performed for the proposed Brown-Strauss Steel facility to be constructed at 1210 & 1431 West Lincoln Street in the City of Banning, California. Our services were completed in accordance with our proposal for geotechnical engineering services dated October 10, 2022 and your signed authorization to proceed with the work. The purpose of our investigation was to explore the subsurface conditions at the site in order to provide recommendations for foundation design and site preparation. Evaluation of environmental issues and hazardous wastes was not included within the scope of services provided.

The opinions, recommendations and design criteria presented in this report are based on our field exploration program, laboratory testing and engineering analyses. Based on the results of our investigation, it is our professional opinion that the proposed project should be feasible from a geotechnical perspective provided that the recommendations presented in this report are implemented into design and carried out through construction.

We appreciate the opportunity to provide service to you on this project. If you have any questions regarding this report, please contact the undersigned.

Respectfully submitted,
**SLADDEN ENGINEERING**

Matthew J. Cohrt
Principal Geologist

CERTIFIED ENGINEERING GEOLOGIST
MATTHEW J. COHRT
2634
STATE OF CALIFORNIA

Brett L. Anderson
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
BRETT L. ANDERSON
No. C45389
CIVIL ENGINEERING
STATE OF CALIFORNIA

SER/mc

Copies: pdf/Addressee

GEOTECHNICAL INVESTIGATION
PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET
APN 540-180-020, 022 & 026
BANNING, CALIFORNIA

January 5, 2023

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APPENDIX C- Seismic Design Map and Report
Site Specific Ground Motion Parameters

## INTRODUCTION

This report presents the results of the geotechnical investigation performed by Sladden Engineering (Sladden) for the Brown-Strauss Steel facility proposed for the site (APN 540-180-020, 022 & 026) located at 1210 & 1431 West Lincoln Street in the City of Banning, California. The site is located at approximately 33.9224 degrees North latitude and 116.8909 degrees West longitude. The approximate location of the site is indicated on the Site Location Map (Figure 1).

Our investigation was conducted in order to evaluate the engineering properties of the subsurface materials, to evaluate their *in-situ* characteristics, and to provide engineering recommendations and design criteria for site preparation, foundation design and the design of various site improvements. This study also includes a review of published and unpublished geotechnical and geological literature regarding seismicity at and near the subject site.

## PROJECT DESCRIPTION

Based on the Conceptual Site Plan (AEC, 2022) and our discussions, it is our understanding that the proposed project will consist of constructing a 45,000 square foot ($ft^2$) industrial building on the site. Associated site improvements will include free-standing steel storage racks, railroad spurs along the northern portion of the property, outdoor storage areas, paved parking areas, exterior concrete flatwork, underground utilities, landscape areas and various other improvements. For our analyses, we expect that the proposed structure will be of light gauge steel construction supported on conventional shallow spread footings and concrete slabs-on-grade.

We anticipate that grading will be limited to minor cuts and fills in order to accomplish the desired pad elevations and provide adequate gradients for site drainage. This does not include the removal and re-compaction of foundation bearing soil within the building envelope. Upon completion of precise grading plans, Sladden should be retained in order to ensure that the recommendations presented within in this report are incorporated into the design of the proposed project.

Structural foundation loads were not available at the time of this report. Based on our experience with relatively light gauge steel frame structures, we expect that isolated column loads will be less than 50 kips and continuous wall loads will be less than 5.0 kips per linear foot. If these assumed loads vary significantly from the actual loads, we should be consulted to verify the applicability of the recommendations provided.

## SCOPE OF SERVICES

The purpose of our investigation was to determine specific engineering characteristics of the surface and near surface soil to develop foundation design criteria and recommendations for site preparation. Exploration of the site was achieved by drilling seven (7) exploratory boreholes to depths between approximately 5 and 45 feet below the existing ground surface (bgs). Specifically, our site characterization consisted of the following tasks:

- Site reconnaissance to assess the existing surface conditions on and adjacent to the site.
- The excavation of seven (7) exploratory boreholes to depths between approximately 5 and 45 feet bgs to characterize the subsurface soil conditions. Representative samples of the soil were classified in the field and retained for laboratory testing and engineering analyses.
- The performance of laboratory testing on selected samples to evaluate their engineering characteristics.
- The review of geologic literature with respect to potential geologic hazards.
- The performance of engineering analyses to develop recommendations for foundation design and site preparation.
- The preparation of this report summarizing our work at the site.

## SITE CONDITIONS

The site is located on the north side of W. Lincoln Street between S. 22nd Street and S. 8th Street in the City of Banning, California. The property consists of three (3) parcels that are formally identified by the County of Riverside as APN 540-180-020, 022 and 026. The site occupies approximately 14.9 acres of land. Based on our review of historical imagery (Google Earth, 2023), it appears that previously the subject site was utilized for tractor-trailer storage between approximately 2002 and 2006. Riverside County records from 1946 lists the property as previously being occupied by a single-family residence and detached garage. At the time of our investigation, the project site was undeveloped, and the surface soil appeared to have been disked for weed abatement. The subject site is bounded developed property to the east, W. Lincoln Street to the south, undeveloped land to the west and Union Pacific railroad property to the immediate north.

The project site is relatively level with minimal surface gradients. According to the USGS 7.5' Beaumont Quadrangle map (2015), the site is at an approximate elevation of 2,380 feet above mean sea level (MSL).

No ponding water or surface seeps were observed at or near the site during our investigation conducted on November 30, 2022. Site drainage appears to be controlled via sheet flow and surface infiltration. No "blue line" streams are mapped on the property and no significant drainage courses were identified transecting the site. The closest "blue line" stream (Montgomery Creek) is located approximately 1,000 feet to the southwest of the project site.

## GEOLOGIC SETTING

The project site is located in the Peninsular Ranges Physiographic Province of California. The Peninsular Ranges are mountainous areas that extend from the western edge of the continental borderland to the Salton Trough and from the Transverse Ranges Physiographic Province in the north to the tip of Baja California in the south. The Peninsular Ranges Physiographic Province is characterized by northwest-trending topographic and structural features. The province is characterized by elongated, northwest-southeast trending mountain ranges and valleys and is truncated at its northern margin by the east-west trending Transverse Ranges. Mountainous areas of the Peninsular Ranges Physiographic Province generally consist of Igneous, metasedimentary and metavolcanic rocks. However, plutonic rocks of the Southern California Batholith are the dominant basement rock exposed (Jahns, 1954).

The site has been mapped by Dibblee (2003) to be immediately underlain by alluvial fan deposits of the San Gorgonio Pass consisting of sand and gravel of plutonic and gneissic detritus (Qf). The geologic setting for the site and site vicinity is illustrated on the Regional Geologic Map, Figure 2.

## SUBSURFACE CONDITIONS

The subsurface conditions at the site were investigated by drilling seven (7) exploratory boreholes on the site. The approximate locations of the boreholes are illustrated on the Exploration Location Plan (Figure 3). The boreholes were advanced using a truck-mounted Mobile B-61 drill-rig equipped with 8-inch outside diameter hollow stem augers. A representative of Sladden was on-site to log the materials encountered and retrieve samples for laboratory testing and engineering analyses.

During our field investigation, disturbed soil was encountered to a maximum depth of approximately two (2) feet below the (existing) ground surface (bgs) within our bore locations. Underlying the disturbed soil, native alluvial materials were encountered to the maximum explored depth of approximately 45 feet bgs. The native soil consists primarily of interbedded alluvial materials comprised of clayey sand (SC), sand (SP/SW) and silty sand (SM). Sampler penetration resistance as measured by field blow counts indicates that density generally increases with depth.

The final logs represent our interpretation of the contents of the field logs, and the results of the laboratory observations and tests of the field samples. The final logs are included in Appendix A of this report. The stratification lines represent the approximate boundaries between soil types, although the transitions may be gradual and variable across the site.

Groundwater was not encountered during our field investigation. Based on our experience in the project vicinity, and our review of groundwater elevations in the project vicinity (CDWR, 2022), it is our opinion that groundwater should not be a factor during construction of the proposed project.

## SEISMICITY AND FAULTING

The southwestern United States is a tectonically active and structurally complex region, dominated by northwest trending dextral faults. The faults of the region are often part of complex fault systems, composed of numerous subparallel faults that splay or step from the main fault traces. Strong seismic shaking could be produced by any of these faults during the design life of the proposed project.

We consider the most significant geologic hazard to the project to be the potential for moderate to strong seismic shaking that is likely to occur during the design life of the project. The proposed project is located in the highly seismic Southern California region within the influence of several fault systems that are considered to be active or potentially active. An active fault is defined by the State of California as a "sufficiently active and well defined fault" that has exhibited surface displacement within the Holocene epoch (about the last 11,000 years). A potentially active fault is defined by the State as a fault with a history of movement within Pleistocene time (between 11,000 and 1.6 million years ago).

Table 1 lists the closest known potentially active faults that was generated in part using the EQFAULT computer program (Blake, 2000), as modified using the fault parameters from The Revised 2002 California Probabilistic Seismic Hazard Maps (Cao et al, 2003), Southern Earthquake Data Center (SCEDC, 2023), Building Seismic Safety Council (BSSC, 2014) and the Quaternary Fault and Fold Database of the United States (USGS, 2023a). This table does not identify the probability of reactivation or the on-site effects from earthquakes occurring on any of the other faults in the region.

**TABLE 1**
**CLOSEST KNOWN ACTIVE FAULTS**

| Fault Name | Distance (Km) | Maximum Event |
|---|---|---|
| San Gorgonia Pass | 1.5 | 6.94* |
| San Andreas – San Bernardino | 9.5 | 7.5 |
| San Andreas – Southern | 9.5 | 7.5 |
| San Jacinto – Anza | 20.4 | 7.2 |
| Pinto Mountain | 21.6 | 7.2 |
| San Jacinto – San Bernardino | 33.6 | 6.7 |
| North Frontal Fault Zone (East) | 34.2 | 6.7 |
| North Frontal Fault Zone (West) | 36.3 | 7.2 |
| San Andreas – Coachella | 38.9 | 7.5 |
| Burnt Mountain | 47.5 | 6.4 |
| Cleghorn | 49.4 | 6.5 |

*BSSC (2014)

## SITE SPECIFIC GROUND MOTION PARAMETERS

Sladden has reviewed the 2022 California Building Code (CBC) and ASCE7-16 and developed site specific ground motion parameters for the subject site. The project Seismic Design Maps and site-specific ground motion parameters are summarized in the following table and included within Appendix C. The project Structural Engineer should verify that all design parameters provided are applicable for the subject project.

**TABLE 2**
**GROUND MOTION PARAMETERS**

| | |
|---|---|
| Latitude / Longitude | 33.9224/-116.8909 |
| Risk Category | II |
| Site Class | D |
| Code Reference Documents | ASCE 7-16; Chapter 11 & 21 |

| Description | Type | Map Based | Site-Specific |
|---|---|---|---|
| $MCE_R$ Ground Motion (0.2 second period) | $S_S$ | 2.144 | --- |
| $MCE_R$ Ground Motion (1.0 second period) | $S_1$ | 0.738 | --- |
| Site-Modified Spectral Acceleration Value | $S_{MS}$ | 2.144 | **2.398** |
| Site-Modified Spectral Acceleration Value | $S_{M1}$ | null | **1.926** |
| Numeric Seismic Design Value at 0.2 second SA | $S_{DS}$ | 1.43 | **1.598** |
| Numeric Seismic Design Value at 1.0 second SA | $S_{D1}$ | null | **1.284** |
| Site Amplification Factor at 0.2 second | $F_a$ | 1 | **1.0** |
| Site Amplification Factor at 1.0 second | $F_v$ | null | **2.5** |
| Site Peak Ground Acceleration | $PGA_M$ | 0.963 | **0.943** |

## GEOLOGIC HAZARDS

The subject site is located in an active seismic zone and will likely experience strong seismic shaking during the design life of the proposed project. In general, the intensity of ground shaking will depend on several factors including: the distance to the earthquake focus, the earthquake magnitude, the response characteristics of the underlying materials, and the quality and type of construction. Geologic hazards and their relationship to the site are discussed below.

I. Surface Rupture. Surface rupture is expected to occur along preexisting, known active fault traces. However, surface rupture could potentially splay or step from known active faults or rupture along unidentified traces. Based on review of Jennings (1994), CGS (2022) and Dibblee (2003), known faults are not mapped on the site. In addition, no signs of active surface faulting were observed during our review of non-stereo digitized photographs of the site and site vicinity (Google, 2022). Finally, no signs of active surface rupture or secondary seismic effects (lateral spreading, lurching etc.) were identified on-site during our field investigation. Therefore, it is our opinion that risks associated with primary surface ground rupture should be considered "low".

II. Ground Shaking. The site has been subjected to past ground shaking by faults that traverse through the region. Strong seismic shaking from nearby active faults is expected to produce strong seismic shaking during the design life of the proposed project. A site-specific approach determined the peak ground acceleration (PGAm) at the site to be 0.943g.

III. Liquefaction/Seismic Settlement. Liquefaction is the process in which loose, saturated granular soil loses strength as a result of cyclic loading. The strength loss is a result of a decrease in granular sand volume and a positive increase in pore pressures. Generally, liquefaction can occur if all of the following conditions apply; liquefaction-susceptible soil, groundwater within a depth of 50 feet or less, and strong seismic shaking. The site is located within a "moderate" liquefaction potential zone (RCMMC, 2023). Based on the relatively dense nature of the underlying native earth materials and the depth to groundwater in the project vicinity, risks associated with liquefaction are considered "low".

IV. Tsunamis and Seiches. Because the site is situated at an elevated inland location and is not immediately adjacent to any impounded bodies of water, risk associated with tsunamis and seiches is considered "negligible".

V. Slope Failure, Landslides, Rock Falls. The site is situated on relatively level ground and is not immediately adjacent to any slopes or hillsides that could be potentially susceptible to slope instability. No signs of slope instability in the form of landslides, rock falls, earthflows or slumps were observed at or near the subject site during our investigation. As such, risks associated with slope instability should be considered "negligible".

VI. Expansive Soil. Expansion Index testing of select samples was performed in order to evaluate the expansive potential of the materials underlying the site. Based the results of our laboratory testing (EI = 12), the materials underlying the site are considered to have a "low" expansion potential. Expansion potential should be reevaluated after remedial grading.

VII. Flooding and Erosion. No signs of flooding or erosion were observed during our field investigation. However, risks associated with flooding and erosion should be evaluated and mitigated by the project design Civil Engineer.

## CONCLUSIONS

Based on the results of our investigation, it is our professional opinion that the project should be feasible from a geotechnical perspective provided that the recommendations provided in this report are incorporated into design and carried out through construction. The main geotechnical concern in the design and construction of the proposed project is the presence of potentially compressible surface and near surface soil throughout the project site.

Because of the somewhat compressible condition of some of the near surface native soil, remedial grading including overexcavation and recompaction is recommended for the proposed building and foundation areas. We recommend that remedial grading within the proposed building areas include over-excavation and re-compaction of the artificial fill and primary foundation bearing soil. Specific recommendations for site preparation are presented in the Earthwork and Grading section of this report.

Groundwater was not encountered during our field investigation. Based on the conditions encountered during our field investigation, groundwater should not be a factor in design or during the construction of the proposed project.

Caving did occur to varying degrees within each of our exploratory bores and the surface soil may be susceptible to caving within deeper excavations. All excavations should be constructed in accordance with the normal CalOSHA excavation criteria. Based on our observations of the materials encountered, we anticipate that the subsoil will conform to that described by CalOSHA as Type C. Soil conditions should be verified in the field by a "Competent person" employed by the Contractor.

The following recommendations present more detailed design criteria that have been developed based on our field investigation and laboratory testing.

## EARTHWORK AND GRADING

All earthwork including excavation, backfill and preparation of the surface soil, should be performed in accordance with the geotechnical recommendations presented in this report and portions of the local regulatory requirements, as applicable. All earthwork should be performed under the observation and testing of a qualified soil engineer. The following geotechnical engineering recommendations for the proposed project are based on observations from the field investigation program, laboratory testing and geotechnical engineering analyses.

a. Site Clearing. Areas to be graded should be cleared of any unsuitable matter. The unsuitable materials should be removed off-site. Existing fill soil should be removed in its entirety and replaced as engineering fill. Voids left by obstructions should be properly backfilled in accordance with the compaction recommendations of this report.

b. Preparation of Building Areas. In order to provide firm and uniform foundation bearing conditions, we recommend over-excavation and re-compaction throughout the building areas. All artificial fill soil and low density near surface native soil should be removed to competent native soil expected at depths of approximately 3 feet below the existing ground surface or to a minimum depth of 3 feet below the bottom of the footings, whichever is deeper. Remedial grading should extend laterally a minimum of five feet beyond the building foundations. The soil exposed by over-excavation should be scarified, moisture conditioned to near optimum moisture content, and compacted to at least 90 percent relative compaction.

c. Compaction. Soil to be used as engineered fill should be free of organic material, debris, and other deleterious substances, and should not contain irreducible matter greater than three inches in maximum dimension. All fill materials should be placed in thin lifts, not exceeding six inches in a loose condition at near optimum moisture content. If import fill is required, the material should be of a low to non-expansive nature and should meet the following criteria:

| | |
|---|---|
| Plastic Index | Less than 12 |
| Liquid Limit | Less than 35 |
| Percent Soil Passing #200 Sieve | Between 15% and 35% |
| Maximum Aggregate Size | 3 inches |

The subgrade soil and all fill material should be compacted with acceptable compaction equipment to at least 90 percent relative compaction. The bottom of the exposed subgrade should be observed by a representative of Sladden Engineering prior to fill placement. Compaction testing should be performed in order to verify proper compaction. Table 3 provides a summary of the excavation and compaction recommendations.

**TABLE 3**
**SUMMARY OF RECOMMENDATIONS**

| | |
|---|---|
| *Remedial Grading | Over-excavation and re-compaction within the building envelope and extending laterally at least 5 feet beyond the building limits and to a minimum depth of 3 feet below existing grade or 3 feet below the bottom of the footings, whichever is deeper. |
| Native / Import Engineered Fill | Place in thin lifts not exceeding 6 inches in a loose condition, compact to a minimum of 90 percent relative compaction. |
| Asphalt Concrete Sections | Compact the top 12 inches to at least 95 percent compaction within 2 percent of optimum moisture content. |

*Actual depth may vary and should be determined by a representative of Sladden Engineering in the field during construction.

d. Shrinkage and Subsidence. Volumetric shrinkage of the material that is excavated and replaced as controlled compacted fill should be anticipated. We estimate that this shrinkage could vary from 10 to 15 percent. Subsidence of the surfaces that are scarified and compacted should be between 1 and 2 tenths of a foot. This will vary depending upon the type of equipment used, the moisture content of the soil at the time of grading and the actual degree of compaction attained.

## FOUNDATIONS: CONVENTIONAL SHALLOW SPREAD FOOTINGS

The proposed structure may be supported upon conventional shallow spread footings. Exterior footings should extend at least 18 inches beneath lowest adjacent grade and interior footings should extend at least 12 inches below slab subgrade. Isolated square or rectangular footings at least 2 feet square and continuous footings at least 12 inches wide may be designed using allowable bearing pressures of 2200 and 2000 pounds per square foot, respectively. The allowable bearing pressure may be increased by approximately 250 psf for each additional 1 foot of width and 250 psf for each additional 6 inches of depth, if desired. The maximum allowable bearing pressure should be limited to 3000 psf unless confirmed by Sladden Engineering subsequent to performing specific settlement calculations. The allowable bearing pressures are for dead and frequently applied live loads and may be increased by 1/3 to resist wind, seismic or other transient loading. All footings should be reinforced in accordance with the project structural engineer's recommendations.

Based on the allowable bearing pressures recommended above the total static settlement of conventional shallow spread footings is anticipated to be less than one inch, provided that foundation preparation conforms to the recommendations provided in this report. Differential static settlement is anticipated to be approximately one-half the total static settlement for similarly loaded footings spaced approximately 40 feet apart.

Resistance to lateral loads may be provided by a combination of friction acting at the base of the slabs or foundations and passive earth pressure along the sides of the foundations. A coefficient of friction of 0.40 between soil and concrete may be used for dead load forces only. A passive earth pressure of 250 pounds per square foot, per foot of depth, may be used for the sides of footings that are placed against properly compacted native soil. Passive earth pressure should be ignored within the upper 1 foot except where confined.

All footing excavations should be observed by a representative of the project geotechnical consultant to verify adequate embedment depths prior to placement of forms, steel reinforcement or concrete. The excavations should be trimmed neat, level and square. All loose, disturbed, sloughed or moisture-softened soils and/or any construction debris should be removed prior to concrete placement. Excavated soil generated from footing and/or utility trenches should not be stockpiled within the building envelope or in areas of exterior concrete flatwork.

## SLABS-ON-GRADE

In order to reduce the risk of heave, cracking and settlement, concrete slabs-on-grade must be placed on properly compacted fill as outlined in the previous sections. The slab subgrades should remain near optimum moisture content and should not be permitted to dry prior to concrete placement. All slab subgrades should be firm and unyielding. Disturbed soil should be removed and then replaced and compacted to a minimum of 90 percent relative compaction.

Slab thickness and reinforcement should be determined by the structural engineer. All slab reinforcement should be supported on concrete chairs to ensure that reinforcement is placed at slab mid-height. Considering the expected uses, we recommend a minimum slab thickness of 6.0 inches within warehouse areas and 4.0 inches within office areas along with minimum reinforcement of #4 bars at 24 inches on center in both directions in warehouse areas and #3 bars at 24 inches on center in both directions for office areas.

Slabs with moisture sensitive surfaces should be underlain with a moisture vapor barrier consisting of a polyvinyl chloride membrane such as 10-mil Visqueen. All laps within the membrane should be sealed and at least 2 inches of clean sand should be placed over the membrane to promote uniform curing of the concrete and to limit damage. To reduce the potential for punctures, the membrane should be placed on a pad surface that has been graded smooth without any sharp protrusions. If a smooth surface can not be achieved by grading, consideration should be given to placing a thin leveling course of sand across the pad surface prior to placement of the membrane.

## RETAINING WALLS

Minor retaining walls may be required to accomplish the proposed construction. Cantilever retaining walls may be designed using "active" pressures. Active pressures may be estimated using an equivalent fluid weight of 40 pcf for level native backfill soil acting in a triangular pressure distribution with drained backfill conditions. "At Rest" pressures should be utilized for restrained walls. At rest pressures may be estimated using an equivalent fluid weight of 60 pcf for native backfill soil with level drained backfill conditions.

We recommend that a back drain system be provided behind all retaining walls or that the walls be designed for full hydrostatic pressures. The back drains should consist of a heavy walled, four inch diameter, perforated pipe sloped to drain to outlets by gravity, and of clean, free-draining, three-quarter to one and one-half inch crushed rock or gravel. The crushed rock or gravel should extend to within one foot of the surface. The upper one foot should be backfilled with compacted, fine-grained soil to exclude surface water. A Mirafi 140N (or equivalent) filter cloth should be placed between the on-site native material and the drain rock.

## ON-SITE PAVEMENT DESIGN

Asphalt concrete pavements should be designed in accordance with the Caltrans Highway Design Manual based on R-Value and Traffic Index. The R-Value of the near surface soil was determined to be 20 at equilibrium. For preliminary pavement design, Traffic Indices (TI) of 6.0 and 7.5 were used for the light duty and heavy duty pavements, respectively. We assumed Asphalt Concrete (AC) over Class II Aggregate Base (AB). The preliminary flexible pavement layer thickness is as follows:

**TABLE 4**
**RECOMMENDED ASPHALT PAVEMENT SECTION LAYER THICKNESS**

| Pavement Material | Recommended Thickness | |
|---|---|---|
| | TI = 5.0 | TI = 6.5 |
| Asphalt Concrete Surface Course | 3.0 inches | 4.0 inches |
| Class II Aggregate Base Course | 4.0 inches | 6.0 inches |
| Compacted Subgrade Soil | 12.0 inches | 12.0 inches |

Asphalt concrete and Class II aggregate base should conform to the latest edition of the Standard Specifications for Public Works Construction ("Greenbook") or CalTrans Standard Specifications. The aggregate base course should be compacted to at least 95 percent of the maximum dry density as determined by ASTM Method D 1557.

We expect that concrete pavement may also be considered for on-site pavement areas. A concrete pavement section of 6.0 inches of Portland Cement Concrete (PCC) on compacted native soil should be adequate for the on-site concrete pavement limited to automobile and light truck traffic. In areas where heavy truck traffic is expected, the concrete pavement section should be increased to 7.0 inches of PCC on compact native soil. Properly spaced and constructed control joints including expansion joints and contraction joints should be incorporated into concrete pavement design to accommodate temperature and shrinkage related cracking. Joint spacing and joint patterns should be established based upon Portland Cement Association (PCA) and American Concrete Institute (ACI) guidelines.

## CORROSION SERIES

The soluble sulfate concentrations of the surface soil were determined to be 20 parts per million (ppm). The soil is considered to have a "negligible- S0" corrosion potential with respect to concrete. The use of Type V cement and special sulfate resistant concrete should not be required. The soluble sulfate content of the surface soil should be reevaluated after grading and appropriate concrete mix designs should be established based upon post-grading test results.

The pH level of the surface soil was determined to be 7.0 Based on soluble chloride concentration testing (30 ppm), the soil is considered to have a "low" corrosion potential with respect to normal grade steel. The minimum resistivity of the surface soil was found to be 4,900 ohm-cm, which suggests that the site soil is considered to have a "moderate" corrosion potential with respect to ferrous metal installations. A corrosion expert should be consulted regarding appropriate corrosion protection measures for corrosion sensitive installations.

## UTILITY TRENCH BACKFILL

All utility trench backfill should be compacted to a minimum of 90 percent relative compaction. Trench backfill materials should be placed in lifts no greater than six inches in a loose condition, moisture conditioned (or air-dried) as necessary to achieve near optimum moisture content and then mechanically compacted in place to a minimum of 90 percent relative compaction. A representative of the project geotechnical consultant should test the backfill to verify adequate compaction.

## EXTERIOR CONCRETE FLATWORK

To minimize cracking of concrete flatwork, the subgrade soil below concrete flatwork areas should first be compacted to a minimum of 90 percent relative compaction. A representative of the project geotechnical consultant should observe and verify the density and moisture content of the soil.

## DRAINAGE

All final grades should be provided with positive gradients away from foundations to provide rapid removal of surface water runoff to an adequate discharge point. No water should be allowed to be pond on or immediately adjacent to foundation elements. In order to reduce water infiltration into the subgrade soil, surface water should be directed away from building foundations to an adequate discharge point. Subgrade drainage should be evaluated upon completion of the precise grading plans and in the field during grading.

## LIMITATIONS

The findings and recommendations presented in this report are based upon an interpolation of the soil conditions between the exploratory boring locations and extrapolation of these conditions throughout the proposed building area. Should conditions encountered during grading appear different than those indicated in this report, this office should be notified.

The use of this report by other parties or for other projects is not authorized. The recommendations of this report are contingent upon monitoring of the grading operation by a representative of Sladden Engineering. All recommendations are considered to be tentative pending our review of the grading operation and additional testing, if indicated. If others are employed to perform any soil testing, this office should be notified prior to such testing in order to coordinate any required site visits by our representative and to assure indemnification of Sladden Engineering.

We recommend that a pre-job conference be held on the site prior to the initiation of site grading. The purpose of this meeting will be to assure a complete understanding of the recommendations presented in this report as they apply to the actual grading performed.

## ADDITIONAL SERVICES

Once completed, final project plans and specifications should be reviewed by use prior to construction to confirm that the full intent of the recommendations presented herein have been applied to design and construction. Following review of plans and specifications, observation should be performed by the Soil Engineer during construction to document that foundation elements are founded on/or penetrate into the recommended soil, and that suitable backfill soil is placed upon competent materials and properly compacted at the recommended moisture content.

Tests and observations should be performed during grading by the Soil Engineer or his representative in order to verify that the grading is being performed in accordance with the project specifications. Field density testing shall be performed in accordance with acceptable ASTM test methods. The minimum acceptable degree of compaction should be 90 percent for subgrade soils and 95 percent for Class II aggregate base as obtained by the ASTM Test Method D1557. Where testing indicates insufficient density, additional compactive effort shall be applied until retesting indicates satisfactory compaction.

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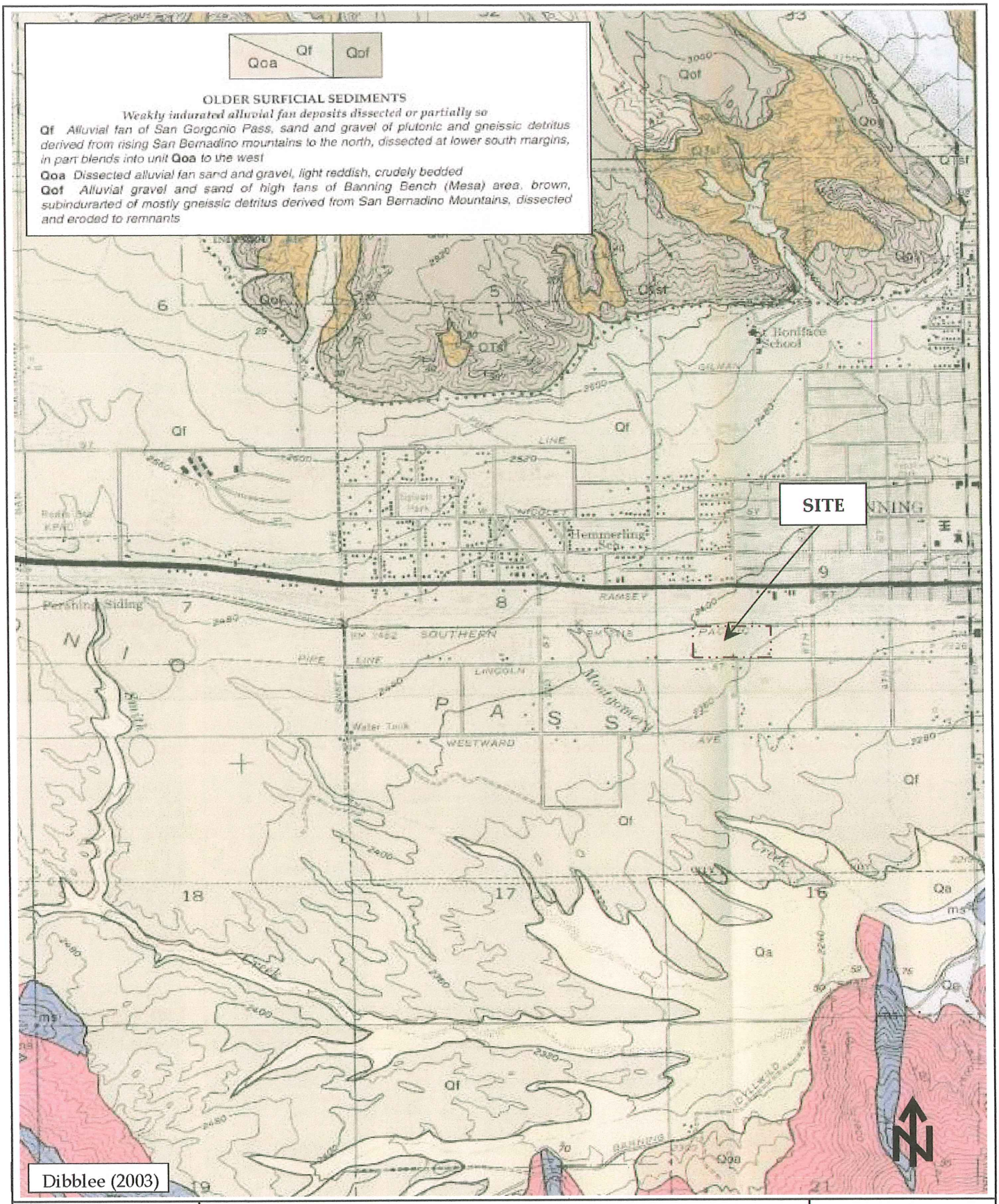
## FIGURES

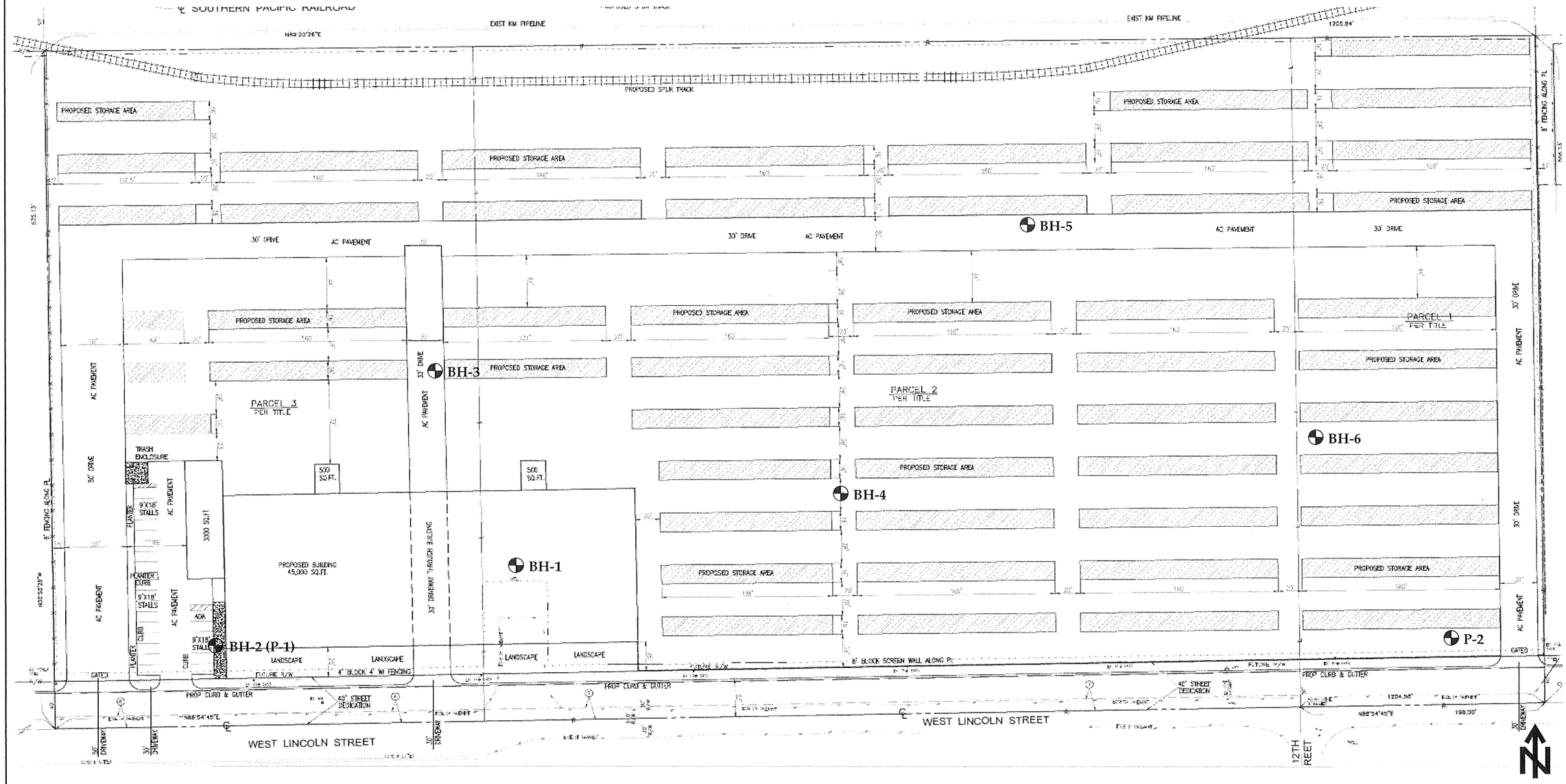
SITE LOCATION MAP
REGIONAL GEOLOGIC MAP
EXPLORATION LOCATION PLAN




| | | |
|---|---|---|
| Sladden Engineering | SITE LOCATION MAP | FIGURE 1 |
| | Project Number: 644-22060 | |
| | Report Number: 22-12-145 | |
| | Date: January 5, 2023 | |




| | | |
|---|---|---|
| Sladden Engineering | REGIONAL GEOLOGIC MAP | FIGURE 2 |
| | Project Number: | 644-22060 |
| | Report Number: | 22-12-145 |
| | Date: | January 5, 2023 |




**LEGEND**

**BH-6 (P-2)** Borehole Location (Percolation Test Location)

**Sladden Engineering**

| BOREHOLE LOCAITON PLAN | | FIGURE |
|---|---|---|
| Project Number: | 644-22060 | 3 |
| Report Number: | 22-12-145 | |
| Date: | January 5, 2023 | |

## APPENDIX A

FIELD EXPLORATION

## APPENDIX A

## FIELD EXPLORATION

For our field investigation seven (7) exploratory bores were excavated on November 30, 2022 utilizing a truck mounted hollow stem auger rig (Mobile B-61). Continuous logs of the materials encountered were made by a representative of Sladden Engineering. Materials encountered in the boreholes were classified in accordance with the Unified Soil Classification System which is presented in this appendix.

Representative undisturbed samples were obtained within our bores by driving a thin-walled steel penetration sampler (California split spoon sampler) or a Standard Penetration Test (SPT) sampler with a 140 pound automatic-trip hammer dropping approximately 30 inches (ASTM D1586). The number of blows required to drive the samplers 18 inches was recorded in 6-inch increments and blowcounts are indicated on the boring logs.

The California samplers are 3.0 inches in diameter, carrying brass sample rings having inner diameters of 2.5 inches. The standard penetration samplers are 2.0 inches in diameter with an inner diameter of 1.5 inches. Undisturbed samples were removed from the sampler and placed in moisture sealed containers in order to preserve the natural soil moisture content. Bulk samples were obtained from the excavation spoils and samples were then transported to our laboratory for further observations and testing.

**Sladden Engineering**

# BORE LOG

| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
|---|---|---|---|
| Elevation: | 2,380 Feet MSL | Boring No: | BH-1 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| ■ | 19 32 29 | 1 | 12 | 41.1 | 6.0 | 119.6 | 2 | | Clayey Sand (SC); reddish brown, dry to slightly moist, dense, fine- to coarse-grained (Qf). |
| ■ | 12 15 26 | | | 43.7 | 11.6 | 114.4 | 4 6 | | Clayey Sand (SC); reddish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| ■ | 10 13 13 | | | 22.7 | 7.2 | | 8 10 | | Clayey Sand (SC); reddish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| ■ | 10 14 25 | | | 8.4 | 4.2 | 119.7 | 12 14 16 | | Sand (SW); dark yellowish brown, dry, medium dense, fine- to coarse-grained (Qf). |
| ■ | 14 15 20 | | | 13.6 | 4.7 | | 18 20 22 | | Clayey Sand (SC); reddish brown, dry, medium dense, fine- to coarse-grained (Qf). |
| ■ | 29 34 38 | | | 9.2 | 3.3 | 125.5 | 24 26 28 | | Sand (SW); yellowish brown, dry, dense, fine- to coarse-grained (Qf). |
| ■ | 18 20 21 | | | 15.1 | 4.4 | | 30 32 34 | | Clayey Sand (SC); reddish brown, dry, dense, fine- to coarse-grained (Qf). |
| ■ | 50-6 | | | 9.8 | 3.4 | 120.2 | 36 38 | | Sand (SP); yellowish brown, dry, very dense, fine-grained with gravel (Qf). |
| ■ | 50-6 | | | 9.1 | 3.5 | | 40 42 | | Sand (SP); yellowish brown, dry, very dense, fine-grained with gravel (Qf). |
| ■ | 50-6 | | | 6.9 | 2.6 | | 44 46 48 50 | | Sand (SP); yellowish brown, dry, very dense, fine-grained with gravel (Qf). |
| | | | | | | | | | Practical Refusal at 45.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| Project No: | 644-22060 | Page | 1 |
|---|---|---|---|
| Report No: | 22-12-145 | | |

**Sladden Engineering**

# BORE LOG

| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
|---|---|---|---|
| Elevation: | 2,380 Feet MSL | Boring No: | BH-2 (P-1) |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| | 4 5 7 | | | 34.0 | 11.3 | | 6 | | Clayey Sand (SC); reddish brown, dry to slightly moist, dense, fine- to coarse-grained (Qf). |
| | 12 24 25 | | | 12.5 | 5.2 | 128.5 | 10 | | Silty Sand (SM); yellowish brown, dry to slightly moist, dense, fine- to coarse-grained (Qf). |
| | | | | | | | 12 | | Terminated at 11.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |

Depth (Feet) scale: 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| Project No: | 644-22060 | Page | 2 |
|---|---|---|---|
| Report No: | 22-12-145 | | |

**Sladden Engineering**

# BORE LOG

| | | | |
|---|---|---|---|
| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
| Elevation: | 2,380 Feet MSL | Boring No: | BH-3 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| | | | | | | | 2 | | |
| | | | | | | | 4 | | |
| | 7 11 13 | | | 32.1 | 12.3 | 111.5 | 6 | | Clayey Sand (SC); reddish brown, moist, medium dense, fine- to coarse-grained (Qf). |
| | | | | | | | 8 | | |
| | 6 7 10 | | | 23.9 | 7.2 | | 10 | | Clayey Sand (SC); yellowish brown, moist, medium dense, fine- to coarse-grained (Qf). |
| | | | | | | | 12 | | |
| | | | | | | | 14 | | |
| | 8 17 23 | | | 13.4 | 4.8 | 122.7 | 16 | | Clayey Sand (SC); yellowish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | | | | | | | 18 | | |
| | 9 11 13 | | | 20.4 | 7.9 | | 20 | | Clayey Sand (SC); yellowish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | | | | | | | 22 | | |
| | | | | | | | 24 | | Terminated at ~21.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |
| | | | | | | | 26 | | |
| | | | | | | | 28 | | |
| | | | | | | | 30 | | |
| | | | | | | | 32 | | |
| | | | | | | | 34 | | |
| | | | | | | | 36 | | |
| | | | | | | | 38 | | |
| | | | | | | | 40 | | |
| | | | | | | | 42 | | |
| | | | | | | | 44 | | |
| | | | | | | | 46 | | |
| | | | | | | | 48 | | |
| | | | | | | | 50 | | |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| | | | |
|---|---|---|---|
| Project No: | 644-22060 | Page | 3 |
| Report No: | 22-12-145 | | |

**Sladden Engineering**

# BORE LOG

| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
|---|---|---|---|
| Elevation: | 2,380 Feet MSL | Boring No: | BH-4 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| | 11 16 15 | | | 33.7 | 7.5 | | 6 | | Clayey Sand (SC); reddish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | 12 18 23 | | | 16.2 | 8.6 | 121.7 | 10 | | Clayey Sand (SC); reddish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | 13 15 24 | | | 14.6 | 5.6 | | 16 | | Silty Sand (SM); yellowish brown, slightly moist, dense, fine- to coarse-grained with gravel (Qf). |
| | | | | | | | | | Terminated at ~16.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| Project No: | 644-22060 | Page | 4 |
|---|---|---|---|
| Report No: | 22-12-145 | | |

**Sladden Engineering**

# BORE LOG

| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
|---|---|---|---|
| Elevation: | 2,380 Feet MSL | Boring No: | BH-5 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| | 17 18 21 | | | 37.8 | 9.2 | | 6 | | Silty Sand (SM); reddish brown, slightly moist, medium dense, fine- to coarse-grained with gravel (Qf). |
| | 12 16 20 | | | 20.3 | 4.9 | | 10 | | Silty Sand (SM); reddish brown, slightly moist, medium dense, fine- to coarse-grained with gravel (Qf). |
| | 10 11 14 | | | 10.3 | 3.7 | 123.5 | 16 | | Sand (SP); yellowish brown, dry, medium dense, fine- to coarse-grained (Qf). |
| | 11 13 16 | | | 9.6 | 3.5 | | 20 | | Sand (SW); yellowish brown, dry, medium dense, fine- to coarse-grained (Qf). |
| | | | | | | | 22 | | Terminated at ~21.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| Project No: | 644-22060 | Page | 5 |
|---|---|---|---|
| Report No: | 22-12-145 | | |

**Sladden Engineering**

# BORE LOG

| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
|---|---|---|---|
| Elevation: | 2,380 Feet MSL | Boring No: | BH-6 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| | | | | | | | 2 | | |
| | | | | | | | 4 | | |
| ■ | 9 13 22 | | | 37.7 | 4.6 | 108.9 | 6 | | Clayey Sand (SC); reddish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | | | | | | | 8 | | |
| ◧ | 9 15 23 | | | 32.6 | 7.6 | | 10 | | Clayey Sand (SC); reddish brown, slightly moist, dense, fine- to coarse-grained (Qf). |
| | | | | | | | 12 | | |
| | | | | | | | 14 | | Terminated at ~11.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |
| | | | | | | | 16 | | |
| | | | | | | | 18 | | |
| | | | | | | | 20 | | |
| | | | | | | | 22 | | |
| | | | | | | | 24 | | |
| | | | | | | | 26 | | |
| | | | | | | | 28 | | |
| | | | | | | | 30 | | |
| | | | | | | | 32 | | |
| | | | | | | | 34 | | |
| | | | | | | | 36 | | |
| | | | | | | | 38 | | |
| | | | | | | | 40 | | |
| | | | | | | | 42 | | |
| | | | | | | | 44 | | |
| | | | | | | | 46 | | |
| | | | | | | | 48 | | |
| | | | | | | | 50 | | |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| Project No: | 644-22060 | Page | 6 |
|---|---|---|---|
| Report No: | 22-12-145 | | |

**Sladden Engineering**

# BORE LOG

| | | | |
|---|---|---|---|
| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
| Elevation: | 2,380 Feet MSL | Boring No: | P-2 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 2 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| | | | | | | | 6 | | Terminated at ~5.0 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| | | | |
|---|---|---|---|
| Project No: | 644-22060 | Page | 7 |
| Report No: | 22-12-145 | | |

## APPENDIX B

LABORATORY TESTING

## APPENDIX B

## LABORATORY TESTING

Representative bulk and relatively undisturbed soil samples were obtained in the field and returned to our laboratory for additional observations and testing. Laboratory testing was generally performed in two phases. The first phase consisted of testing in order to determine the compaction of the existing natural soil and the general engineering classifications of the soils underlying the site. This testing was performed in order to estimate the engineering characteristics of the soil and to serve as a basis for selecting samples for the second phase of testing. The second phase consisted of soil mechanics testing. This testing including consolidation, shear strength and expansion testing was performed in order to provide a means of developing specific design recommendations based on the mechanical properties of the soil.

## CLASSIFICATION AND COMPACTION TESTING

**Unit Weight and Moisture Content Determinations:** Each undisturbed sample was weighed and measured in order to determine its unit weight. A small portion of each sample was then subjected to testing in order to determine its moisture content. This was used in order to determine the dry density of the soil in its natural condition. The results of this testing are shown on the Bore Logs.

**Maximum Density-Optimum Moisture Determinations:** Representative soil types were selected for maximum density determinations. This testing was performed in accordance with the ASTM Standard D1557, Test Method A. The results of testing are presented graphically in this appendix. The maximum densities are compared to the field densities of the soil in order to determine the existing relative compaction to the soil.

**Classification Testing:** Soil samples were selected for classification testing. This testing consists of mechanical grain size analyses. This provides information for developing classifications for the soil in accordance with the Unified Soil Classification System which is presented in the preceding appendix. This classification system categorizes the soil into groups having similar engineering characteristics. The results of this testing is very useful in detecting variations in the soils and in selecting samples for further testing.

## SOIL MECHANIC'S TESTING

**Expansion Testing:** One (1) bulk sample was selected for Expansion testing. Expansion testing was performed in accordance with the UBC Standard 18-2. This testing consists of remolding 4-inch diameter by 1-inch thick test specimens to a moisture content and dry density corresponding to approximately 50 percent saturation. The samples are subjected to a surcharge of 144 pounds per square foot and allowed to reach equilibrium. At that point the specimens are inundated with distilled water. The linear expansion is then measured until complete.

**Direct Shear Testing:** One (1) sample was selected for Direct Shear testing. This test measures the shear strength of the soil under various normal pressures and is used to develop parameters for foundation design and lateral design. Tests were performed using a recompacted test specimen that was saturated prior to tests. Tests were performed using a strain controlled test apparatus with normal pressures ranging from 800 to 2300 pounds per square foot.

**Consolidation Testing:** One (1) relatively undisturbed samples were selected for consolidation testing. For this test, a one-inch thick test specimen was subjected to vertical loads varying from 575 psf to 11520 psf applied progressively. The consolidation at each load increment was recorded prior to placement of each subsequent load. The specimens were saturated at 575 psf or 720 psf load increment.

**Corrosion Series Testing:** The soluble sulfate concentrations of the surface soil were determined in accordance with California Test Method Number (CA) 417. The pH and Minimum Resistivity were determined in accordance with CA 643. The soluble chloride concentrations were determined in accordance with CA 422.

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# Maximum Density/Optimum Moisture

ASTM D698/D1557

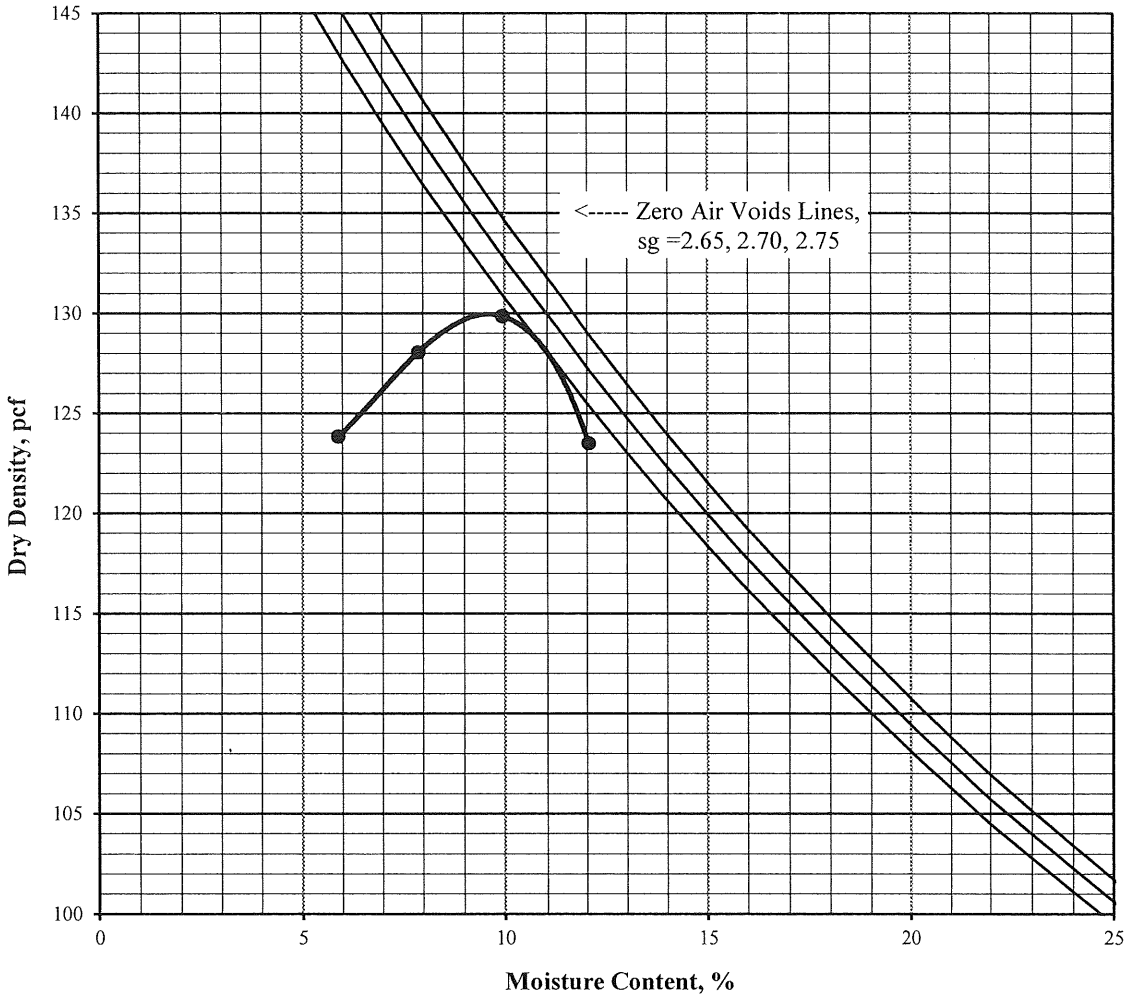
Project Number: 644-22060
Project Name: 1210 & 1431 West Lincoln Street
Lab ID Number: LN6-22576
Sample Location: BH-1 Bulk 1 @ 0-5'
Description: Red Brown Silty Sand (SM)

January 5, 2023

ASTM D-1557 A
Rammer Type: Machine

**Maximum Density: 130 pcf**
**Optimum Moisture: 9.5%**

| Sieve Size | % Retained |
|---|---|
| 3/4" | |
| 3/8" | |
| #4 | 2.3 |



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## Expansion Index

ASTM D 4829

Job Number: 644-22060

Job Name: 1210 & 1431 West Lincoln Street

Lab ID Number: LN6-22576

Sample ID: BH-1 Bulk 1 @ 0-5'

Soil Description: Red Brown Silty Sand (SM)

January 5, 2023

| | |
|---|---|
| Wt of Soil + Ring: | 589.7 |
| Weight of Ring: | 191.0 |
| Wt of Wet Soil: | 398.7 |
| Percent Moisture: | 7.5% |
| Sample Height, in | 0.95 |
| Wet Density, pcf: | 127.6 |
| Dry Denstiy, pcf: | 118.7 |

| | |
|---|---|
| **% Saturation:** | 48.2 |

**Expansion** **Rack # 2**

| | | |
|---|---|---|
| Date/Time | 1/3/2023 | 2:30 PM |
| Initial Reading | 0.0000 | |
| Final Reading | 0.0124 | |

**Expansion Index** **12**

(Final - Initial) x 1000

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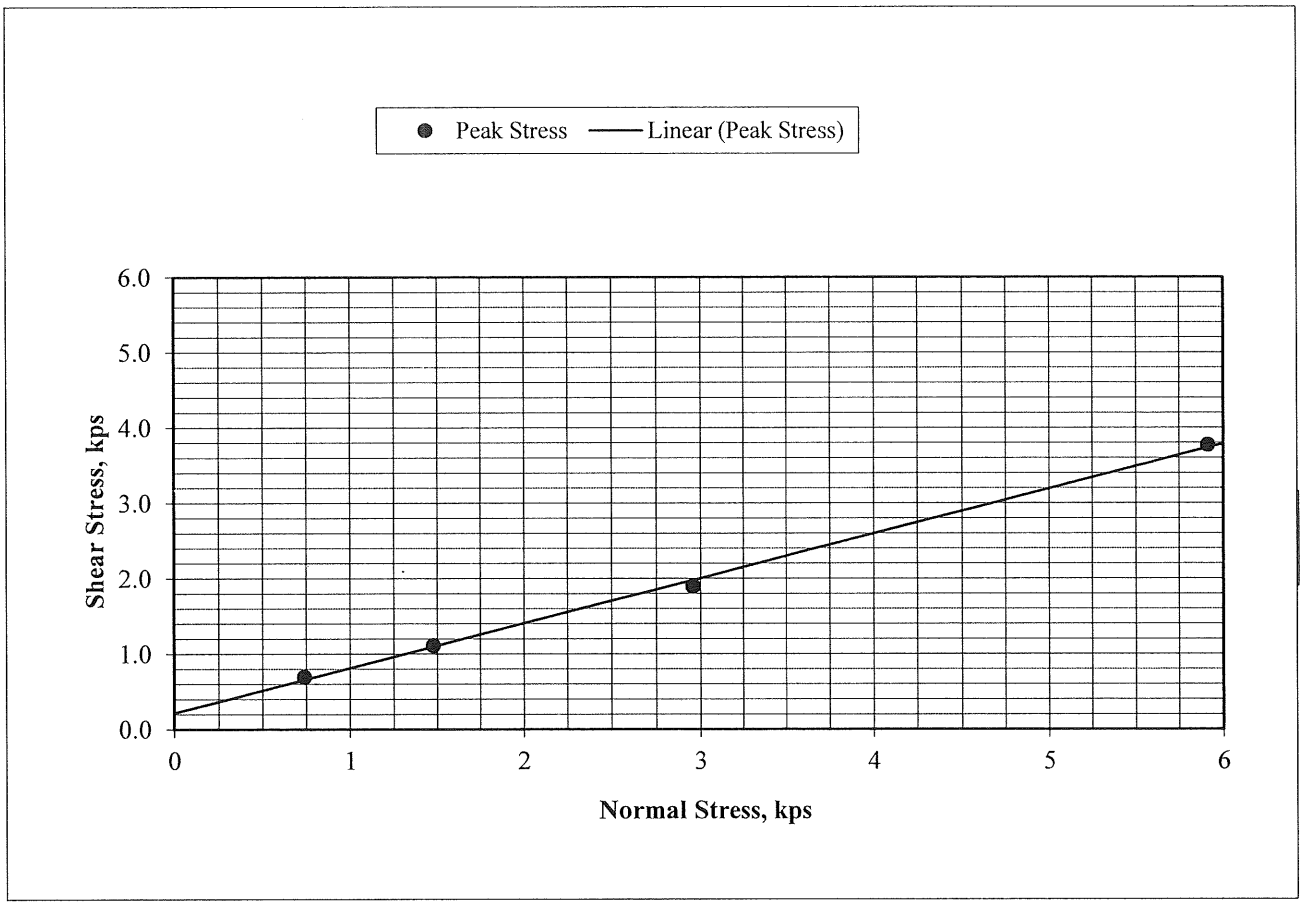
**Direct Shear** ASTM D 3080-04
(modified for unconsolidated condition)

| | | | |
|---|---|---|---|
| Job Number: | 644-22060 | | January 5, 2023 |
| Job Name | 1210 & 1431 West Lincoln Street | Initial Dry Density: | 117.0 pcf |
| Lab ID No. | LN6-22576 | Initial Mosture Content: | 9.5 % |
| Sample ID | BH-1 Bulk 1 @ 0-5' | Peak Friction Angle (Ø): | 31° |
| Classification | Red Brown Silty Sand (SM) | Cohesion (c): | 220 psf |
| Sample Type | Remolded @ 90% of Maximum Density | | |

| Test Results | 1 | 2 | 3 | 4 | Average |
|---|---|---|---|---|---|
| Moisture Content, % | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 |
| Saturation, % | 90.2 | 90.2 | 90.2 | 90.2 | 90.2 |
| Normal Stress, kps | 0.739 | 1.479 | 2.958 | 5.916 | |
| Peak Stress, kps | 0.698 | 1.112 | 1.897 | 3.771 | |



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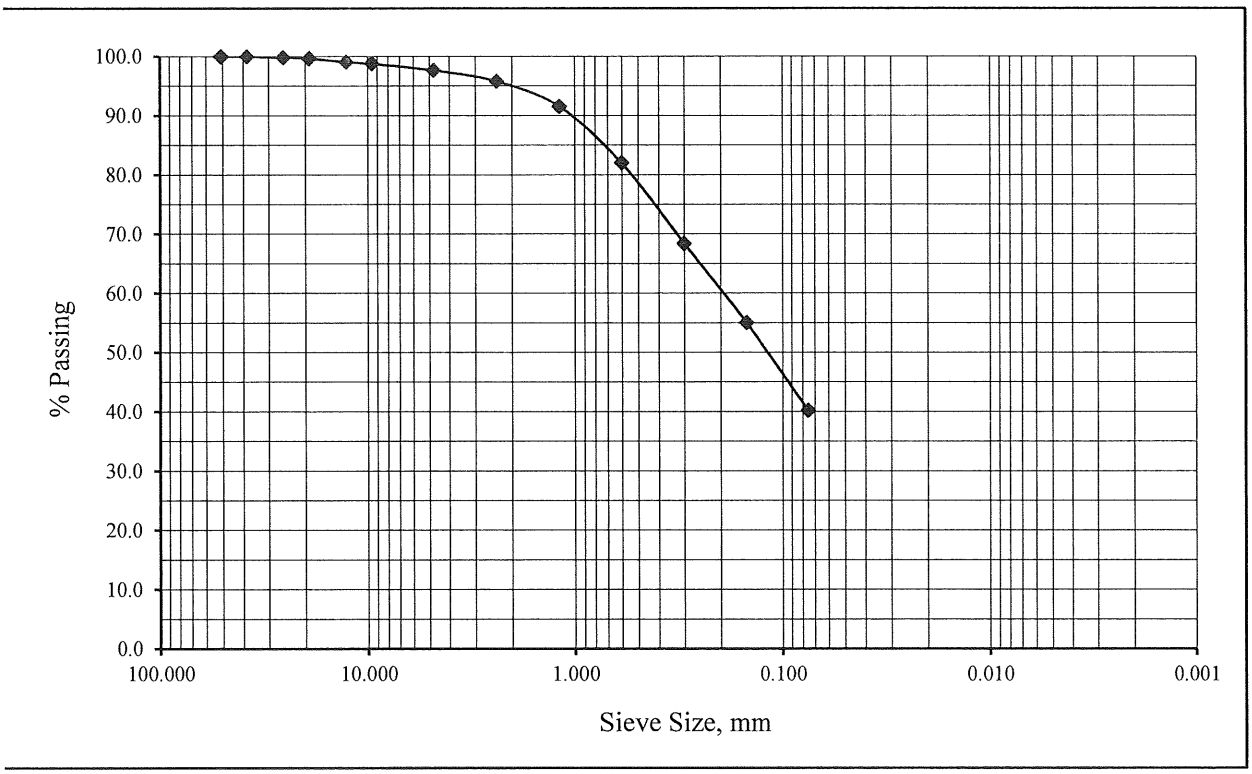
# Gradation

ASTM C117 & C136

Project Number: 644-22060 January 5, 2023
Project Name: 1210 & 1431 West Lincoln Street
Lab ID Number: LN6-22576
Sample ID: BH-1 Bulk 1 @ 0-5' Soil Classification: SM

| Sieve Size, in | Sieve Size, mm | Percent Passing |
|---|---|---|
| 2" | 50.8 | 100.0 |
| 1 1/2" | 38.1 | 100.0 |
| 1" | 25.4 | 99.8 |
| 3/4" | 19.1 | 99.7 |
| 1/2" | 12.7 | 99.1 |
| 3/8" | 9.53 | 98.8 |
| #4 | 4.75 | 97.7 |
| #8 | 2.36 | 95.8 |
| #16 | 1.18 | 91.6 |
| #30 | 0.60 | 82.0 |
| #50 | 0.30 | 68.4 |
| #100 | 0.15 | 55.0 |
| #200 | 0.075 | 40.2 |



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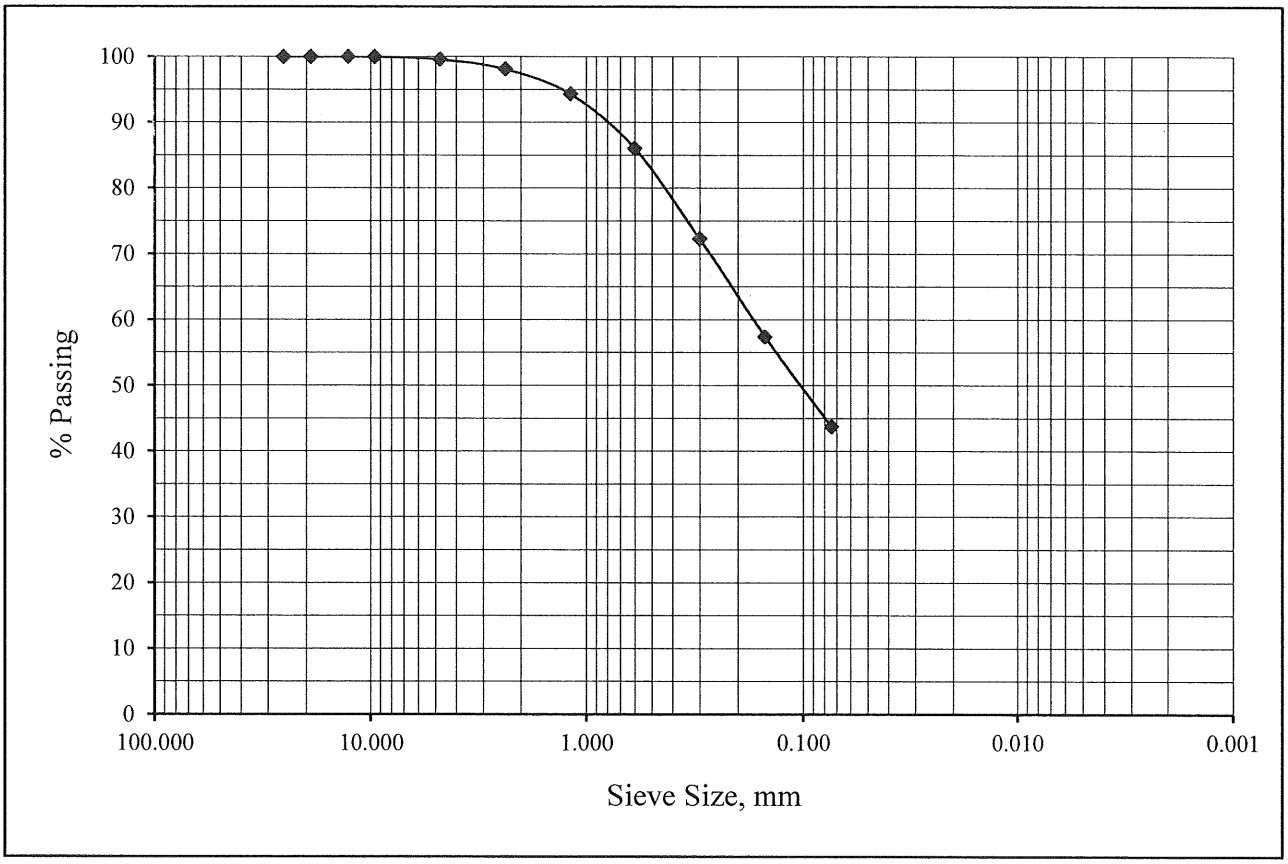
## Gradation

ASTM C117 & C136

Project Number: 644-22060 January 5, 2023
Project Name: 1210 & 1431 West Lincoln Street
Lab ID Number: LN6-22576
Sample ID: BH-1 R-2 @ 5' Soil Classification: SC

| Sieve Size, in | Sieve Size, mm | Percent Passing |
|---|---|---|
| 1" | 25.4 | 100.0 |
| 3/4" | 19.1 | 100.0 |
| 1/2" | 12.7 | 100.0 |
| 3/8" | 9.53 | 100.0 |
| #4 | 4.75 | 99.6 |
| #8 | 2.36 | 98.1 |
| #16 | 1.18 | 94.4 |
| #30 | 0.60 | 86.1 |
| #50 | 0.30 | 72.3 |
| #100 | 0.15 | 57.4 |
| #200 | 0.074 | 43.7 |



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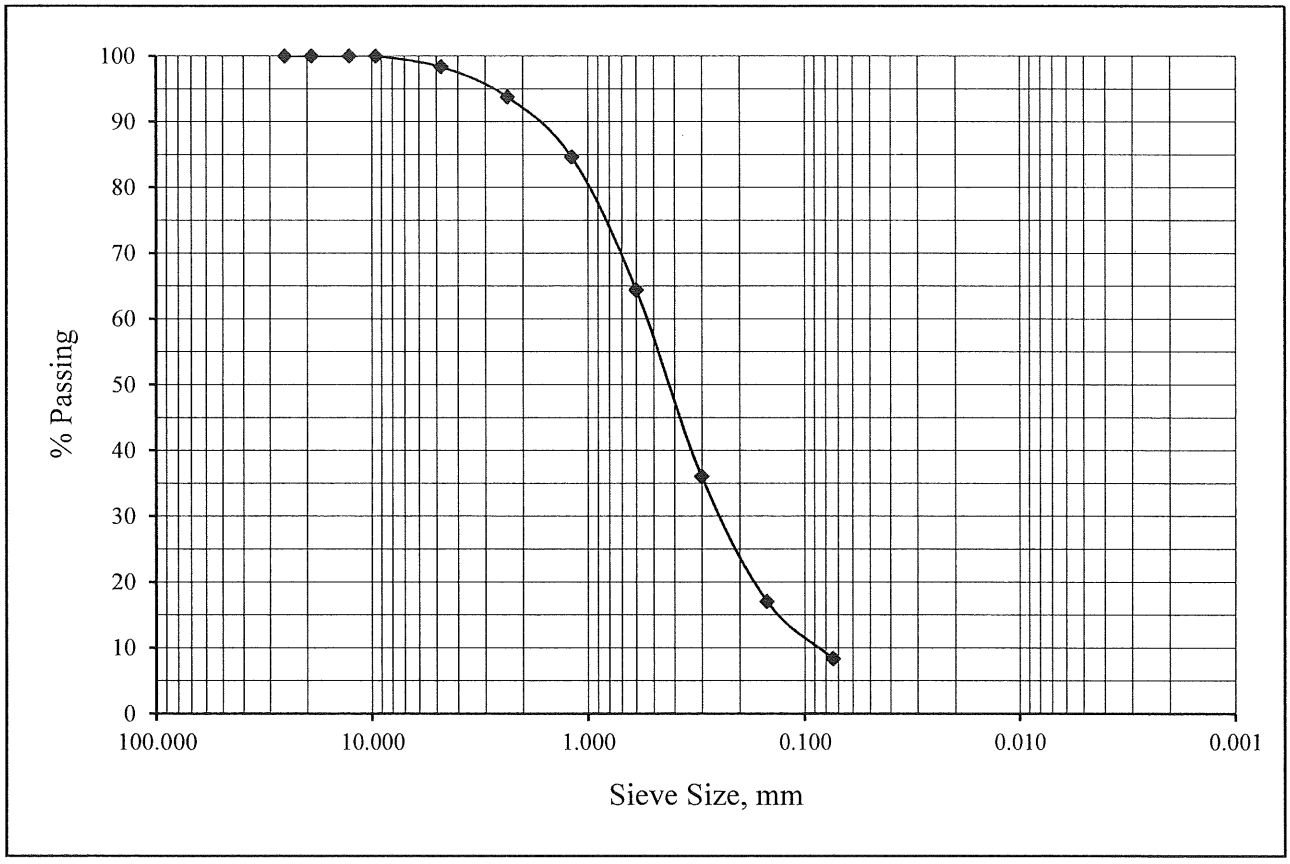
## Gradation

ASTM C117 & C136

Project Number: 644-22060 January 5, 2023
Project Name: 1210 & 1431 West Lincoln Street
Lab ID Number: LN6-22576
Sample ID: BH-1 R-4 @ 15' Soil Classification: SW-SM

| Sieve Size, in | Sieve Size, mm | Percent Passing |
|---|---|---|
| 1" | 25.4 | 100.0 |
| 3/4" | 19.1 | 100.0 |
| 1/2" | 12.7 | 100.0 |
| 3/8" | 9.53 | 100.0 |
| #4 | 4.75 | 98.4 |
| #8 | 2.36 | 93.8 |
| #16 | 1.18 | 84.6 |
| #30 | 0.60 | 64.4 |
| #50 | 0.30 | 36.1 |
| #100 | 0.15 | 17.1 |
| #200 | 0.074 | 8.4 |



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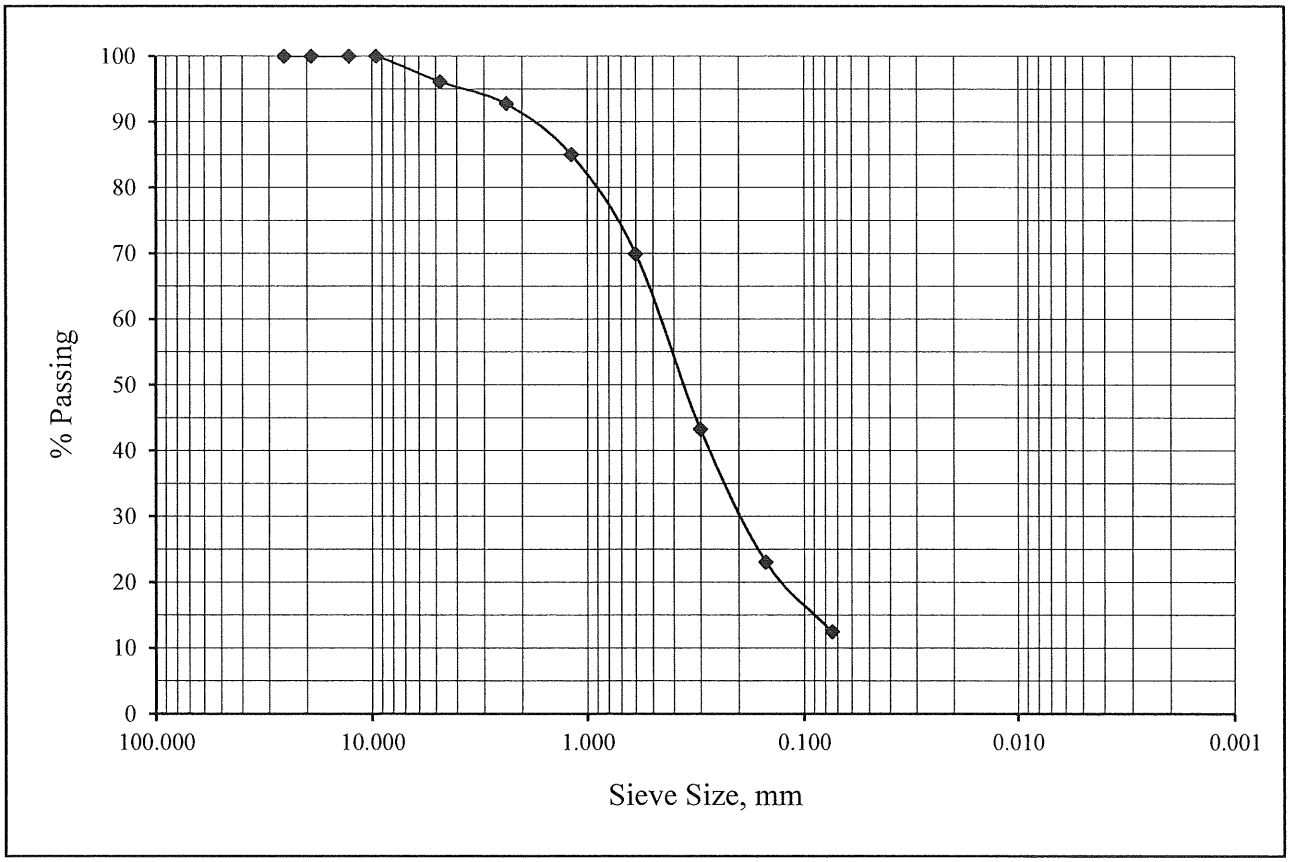
## Gradation

ASTM C117 & C136

Project Number: 644-22060 January 5, 2023
Project Name: 1210 & 1431 West Lincoln Street
Lab ID Number: LN6-22576
Sample ID: BH-2 R-2 @ 10' Soil Classification: SM

| Sieve Size, in | Sieve Size, mm | Percent Passing |
|---|---|---|
| 1" | 25.4 | 100.0 |
| 3/4" | 19.1 | 100.0 |
| 1/2" | 12.7 | 100.0 |
| 3/8" | 9.53 | 100.0 |
| #4 | 4.75 | 96.1 |
| #8 | 2.36 | 92.8 |
| #16 | 1.18 | 85.0 |
| #30 | 0.60 | 69.9 |
| #50 | 0.30 | 43.3 |
| #100 | 0.15 | 23.1 |
| #200 | 0.074 | 12.5 |



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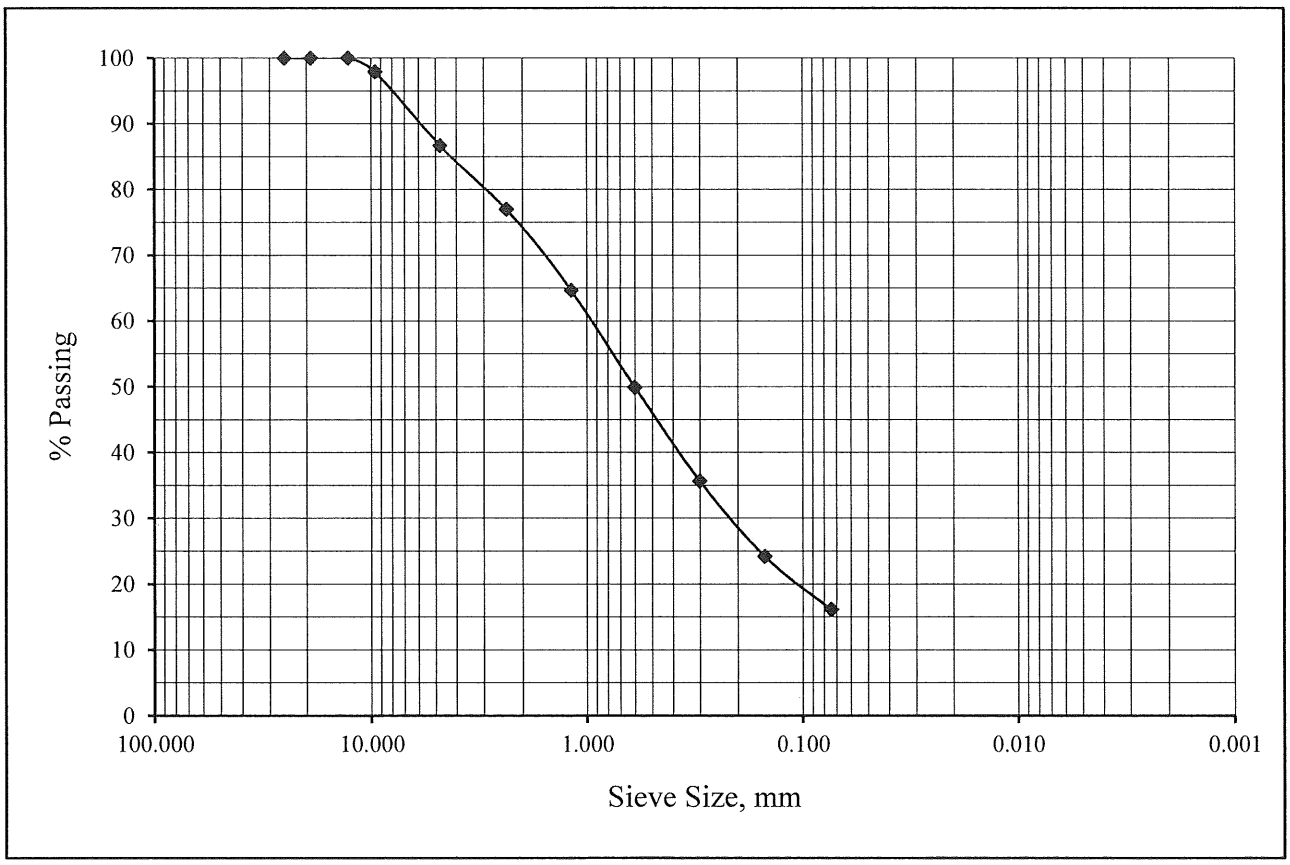
## Gradation

ASTM C117 & C136

Project Number: 644-22060 January 5, 2023
Project Name: 1210 & 1431 West Lincoln Street
Lab ID Number: LN6-22576
Sample ID: BH-4 R-2 @ 10' Soil Classification: SC

| Sieve Size, in | Sieve Size, mm | Percent Passing |
|---|---|---|
| 1" | 25.4 | 100.0 |
| 3/4" | 19.1 | 100.0 |
| 1/2" | 12.7 | 100.0 |
| 3/8" | 9.53 | 97.9 |
| #4 | 4.75 | 86.7 |
| #8 | 2.36 | 77.0 |
| #16 | 1.18 | 64.7 |
| #30 | 0.60 | 49.9 |
| #50 | 0.30 | 35.7 |
| #100 | 0.15 | 24.2 |
| #200 | 0.074 | 16.2 |



# Sladden Engineering

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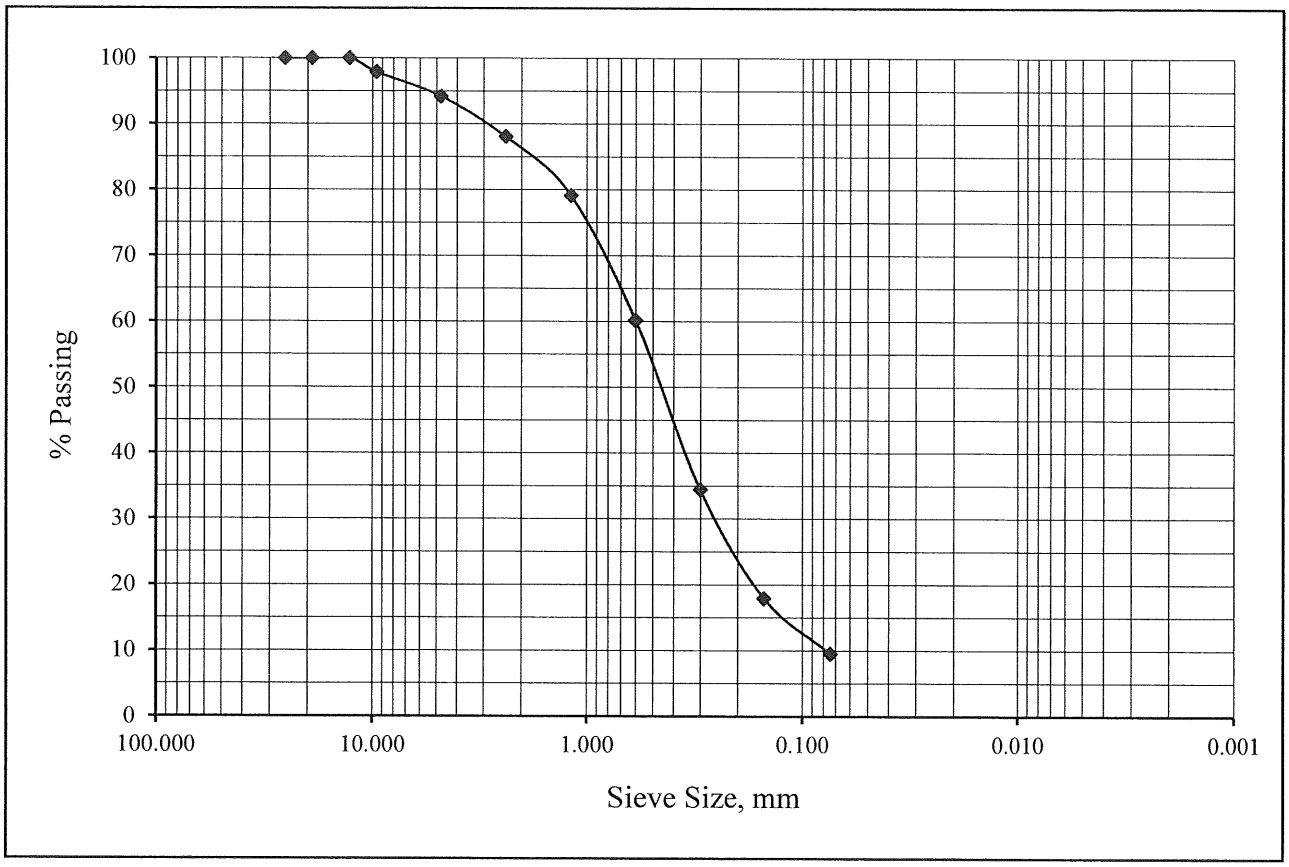
## Gradation

ASTM C117 & C136

Project Number: 644-22060 January 5, 2023
Project Name: 1210 & 1431 West Lincoln Street
Lab ID Number: LN6-22576
Sample ID: BH-5 S-4 @ 20' Soil Classification: SW-SM

| Sieve Size, in | Sieve Size, mm | Percent Passing |
|---|---|---|
| 1" | 25.4 | 100.0 |
| 3/4" | 19.1 | 100.0 |
| 1/2" | 12.7 | 100.0 |
| 3/8" | 9.53 | 97.9 |
| #4 | 4.75 | 94.2 |
| #8 | 2.36 | 88.1 |
| #16 | 1.18 | 79.2 |
| #30 | 0.60 | 60.2 |
| #50 | 0.30 | 34.5 |
| #100 | 0.15 | 17.9 |
| #200 | 0.074 | 9.6 |



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# One Dimensional Consolidation

ASTM D2435 & D5333

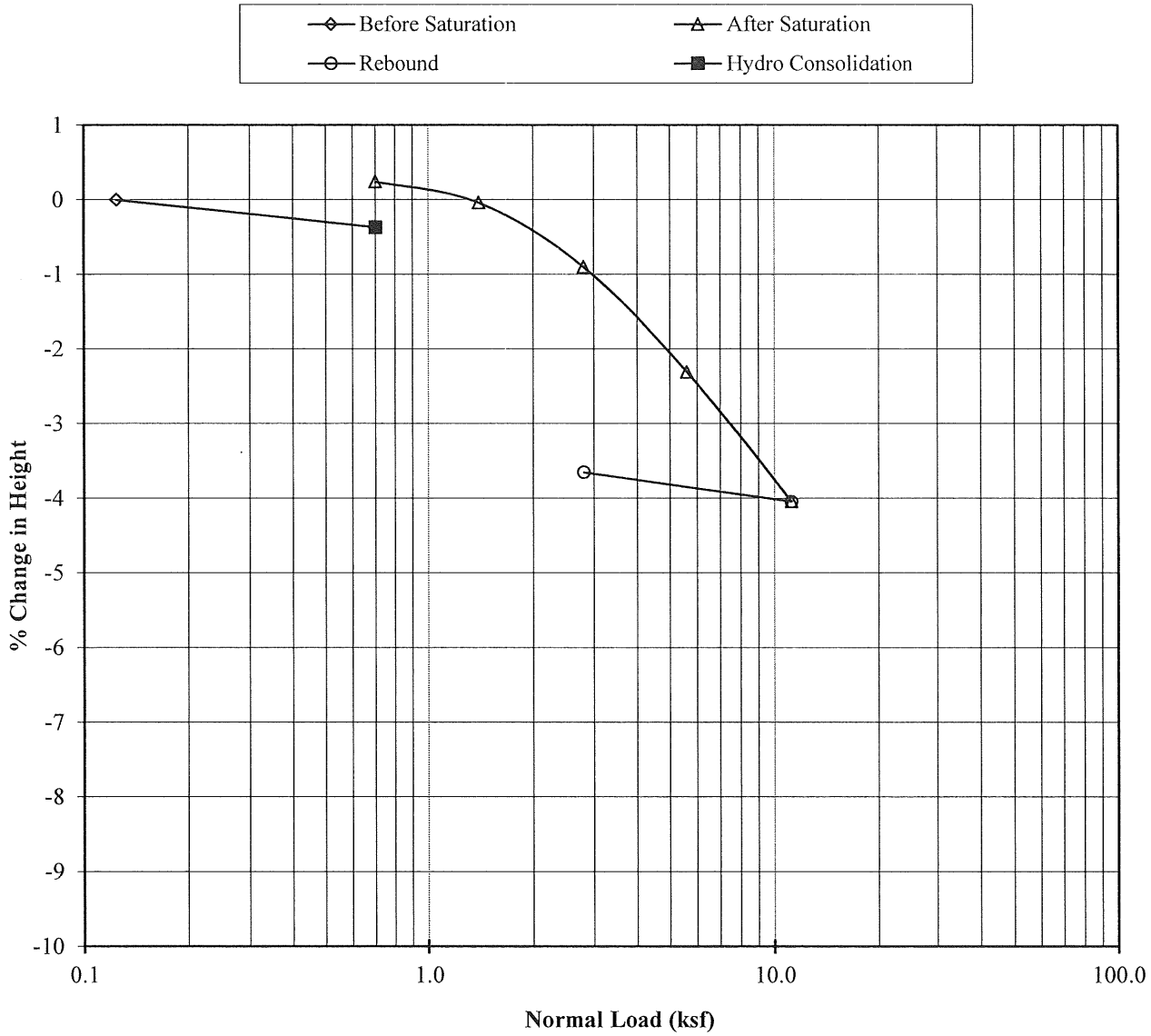
Job Number: 644-22060
Job Name: 1210 & 1431 West Lincoln Street

January 5, 2023

Lab ID Number: LN6-22576
Sample ID: BH-1 R-2 @ 5'
Soil Description: Red Brown Clayey Sand (SC)

| | |
|---|---|
| Initial Dry Density, pcf: | 109.8 |
| Initial Moisture, %: | 11.6 |
| Initial Void Ratio: | 0.519 |
| Specific Gravity: | 2.67 |

**% Change in Height vs Normal Presssure Diagram**



# Sladden Engineering

6782 Stanton Ave., Suite C, Buena Park, CA 90621 (714) 523-0952 Fax (714) 523-1369
45090 Golf Center Pkwy, Suite F, Indio, CA 92201 (760) 863-0713 Fax (760) 863-0847
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863

Date: January 5, 2023

Account No.: 644-22060

Customer: Bremco Construction, Inc.

Location: APN's 540-180-020, 022 & 026, 1210 & 1431 West Lincoln Street, Banning

## Analytical Report

---

Corrosion Series

| | pH<br>per CA 643 | Soluble Sulfates<br>per CA 417<br>ppm | Soluble Chloride<br>per CA 422<br>ppm | Min. Resistivity<br>per CA 643<br>ohm-cm |
|---|---|---|---|---|
| BH-1 @ 0-5' | 7.0 | 20 | 30 | 4900 |

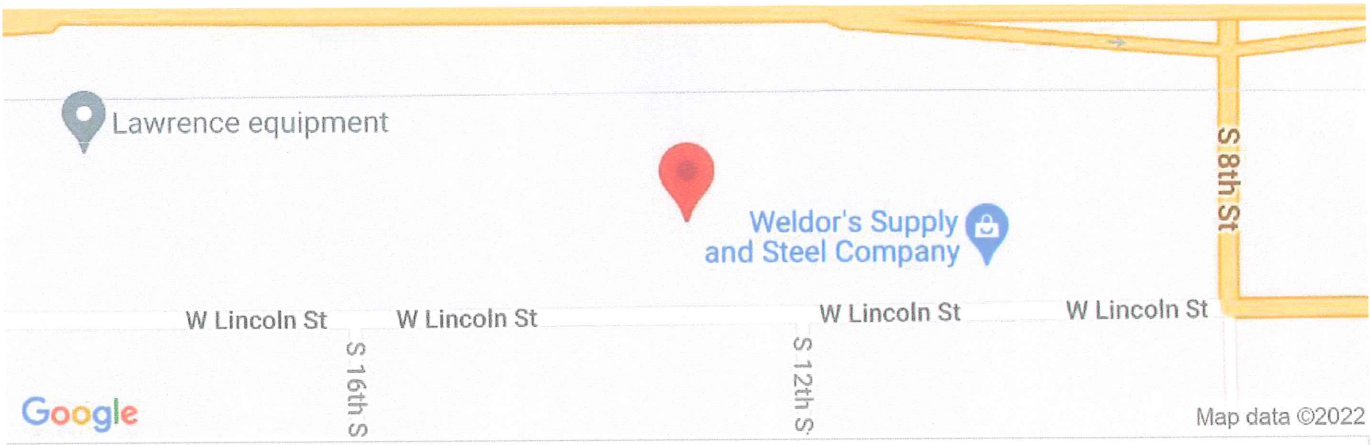
**APPENDIX C**

SEISMIC DESIGN MAP AND REPORT
SITE SPECIFIC GROUND MOTION PARAMETERS

OSHPD

# 1210 & 1431 W. Lincoln Street, Banning

**Latitude, Longitude: 33.9224, -116.8909**




| | |
|---|---|
| **Date** | 12/28/2022, 4:29:14 PM |
| **Design Code Reference Document** | ASCE7-16 |
| **Risk Category** | II |
| **Site Class** | D - Stiff Soil |

| Type | Value | Description |
|---|---|---|
| $S_S$ | 2.144 | $MCE_R$ ground motion. (for 0.2 second period) |
| $S_1$ | 0.738 | $MCE_R$ ground motion. (for 1.0s period) |
| $S_{MS}$ | 2.144 | Site-modified spectral acceleration value |
| $S_{M1}$ | null -See Section 11.4.8 | Site-modified spectral acceleration value |
| $S_{DS}$ | 1.43 | Numeric seismic design value at 0.2 second SA |
| $S_{D1}$ | null -See Section 11.4.8 | Numeric seismic design value at 1.0 second SA |

| Type | Value | Description |
|---|---|---|
| SDC | null -See Section 11.4.8 | Seismic design category |
| $F_a$ | 1 | Site amplification factor at 0.2 second |
| $F_v$ | null -See Section 11.4.8 | Site amplification factor at 1.0 second |
| PGA | 0.876 | $MCE_G$ peak ground acceleration |
| $F_{PGA}$ | 1.1 | Site amplification factor at PGA |
| $PGA_M$ | 0.963 | Site modified peak ground acceleration |
| $T_L$ | 8 | Long-period transition period in seconds |
| SsRT | 2.287 | Probabilistic risk-targeted ground motion. (0.2 second) |
| SsUH | 2.493 | Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration |
| SsD | 2.144 | Factored deterministic acceleration value. (0.2 second) |
| S1RT | 0.872 | Probabilistic risk-targeted ground motion. (1.0 second) |
| S1UH | 0.976 | Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration. |
| S1D | 0.738 | Factored deterministic acceleration value. (1.0 second) |
| PGAd | 0.876 | Factored deterministic acceleration value. (Peak Ground Acceleration) |
| $PGA_{UH}$ | 0.977 | Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration |

| Type | Value | Description |
|---|---|---|
| $C_{RS}$ | 0.917 | Mapped value of the risk coefficient at short periods |
| $C_{R1}$ | 0.893 | Mapped value of the risk coefficient at a period of 1 s |
| $C_V$ | 1.5 | Vertical coefficient |

DISCLAIMER

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# SITE-SPECIFIC GROUND MOTION ANALYSIS
## (ASCE 7-16)

**Project:** 1210 & 1431 W. LINCOLN STREET, BANNING
**Project Number:** 644-22060
**Client:** Bremco Construction
**Site Lat/Long:** 33.9224/-116.8909
**Controlling Seismic Source:** San Gorgonio Pass

| REFERENCE | NOTATION | VALUE |
|---|---|---|
| Site Class | C, D, D default, or E | D measured |
| Site Class D - Table 11.4-1 | $F_a$ | 1.0 |
| Site Class D - 21.3(ii) | $F_v$ | 2.5 |
| $0.2*(S_{D1}/S_{DS})$ | $T_0$ | 0.172 |
| $S_{D1}/S_{DS}$ | $T_S$ | 0.861 |
| Fundamental Period (12.8.2) | T | Period |
| Seismic Design Maps or Fig 22-14 | $T_L$ | 8 |
| Equation 11.4-4 - $2/3*S_{M1}$ | $S_{D1}$ | 1.2300 |
| Equation 11.4-2 - $F_V*S_1$ [1] | $S_{M1}$ | 1.8450 |

[1] - $F_V$ as determined by Section 21.3

| REFERENCE | NOTATION | VALUE |
|---|---|---|
| Fv (Table 11.4-2)[Used for General Spectrum] | $F_v$ | 1.7 |
| Design Maps | $S_s$ | 2.144 |
| Design Maps | $S_1$ | 0.738 |
| Equation 11.4-1 - $F_A*S_S$ | $S_{MS}$ | 2.144* |
| Equation 11.4-3 - $2/3*S_{MS}$ | $S_{DS}$ | 1.429* |
| Design Maps | PGA | 0.876 |
| Table 11.8-1 | $F_{PGA}$ | 1.1 |
| Equation 11.8-1 - $F_{PGA}*PGA$ | $PGA_M$ | 0.964* |
| Section 21.5.3 | 80% of $PGA_M$ | 0.771 |
| Design Maps | $C_{RS}$ | 0.917 |
| Design Maps | $C_{R1}$ | 0.893 |

| REFERENCE | NOTATION | VALUE |
|---|---|---|
| $0.2*(S_{D1}/S_{DS})$ | $T_0$ | 0.117* |
| $S_{D1}/S_{DS}$ | $T_S$ | 0.585* |
| Equation 11.4-4 - $2/3*S_{M1}$ | $S_{D1}$ | 0.8364* |
| Equation 11.4-2 - $F_V*S_1$ | $S_{M1}$ | 1.2546* |

**RISK COEFFICIENT**

| | | |
|---|---|---|
| Cr - At Perods <=0.2, Cr=$C_{RS}$ | $C_{RS}$ | 0.917 |
| Cr - At Periods >=1.0, Cr=$C_{R1}$ | $C_{R1}$ | 0.893 |

Cr - At Periods between 0.2 and 1.0 use trendline formula to complete

| Period | Cr |
|---|---|
| 0.200 | 0.917 |
| 0.300 | 0.914 |
| 0.400 | 0.911 |
| 0.500 | 0.908 |
| 0.600 | 0.905 |
| 0.680 | 0.903 |
| 1.000 | 0.893 |

* **Code based design value**. See accompanying data for Site Specific Design values.

Mapped values from https://hazards.atcouncil.org/

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**PROBABILISTIC SPECTRA[1]**
**2% in 50 year Exceedence**

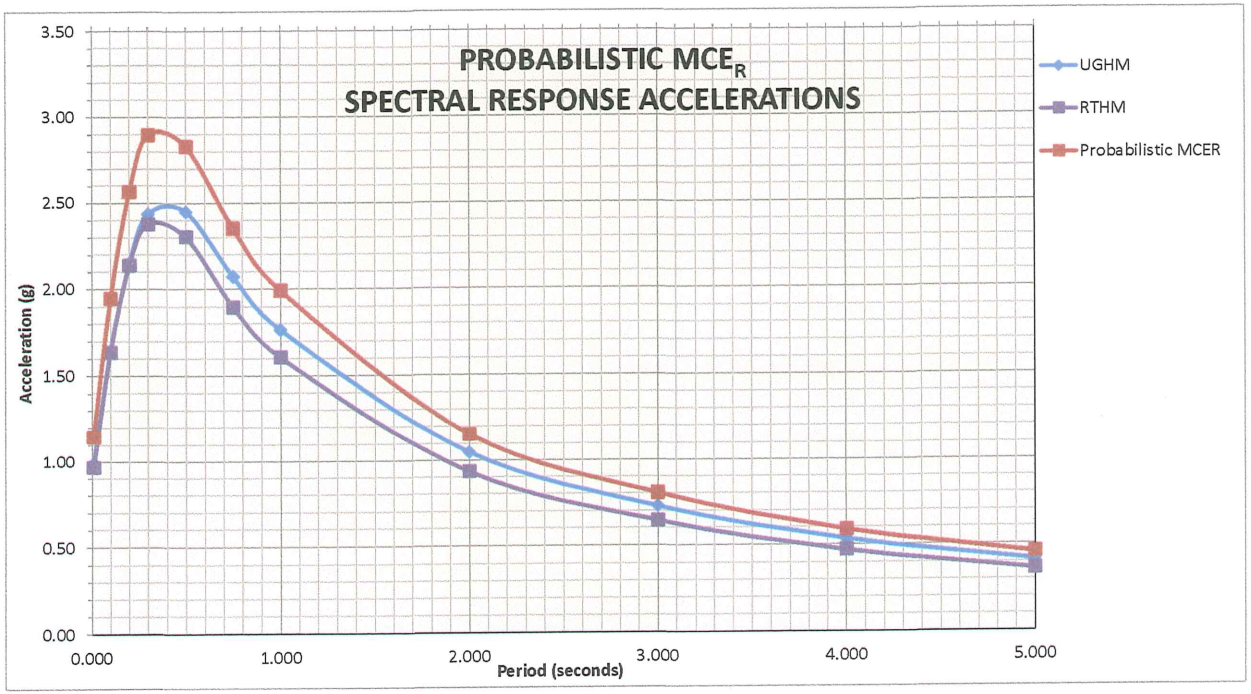
Project No: 644-22060

| Period | UGHM | RTGM | Max Directional Scale Factor[2] | Probabilistic MCE |
|---|---|---|---|---|
| 0.010 | 0.991 | 0.964 | 1.19 | 1.147 |
| 0.100 | 1.646 | 1.635 | 1.19 | 1.946 |
| 0.200 | 2.148 | 2.136 | 1.20 | 2.563 |
| 0.300 | 2.435 | 2.375 | 1.22 | 2.898 |
| 0.500 | 2.447 | 2.301 | 1.23 | 2.830 |
| 0.750 | 2.072 | 1.896 | 1.24 | 2.351 |
| 1.000 | 1.765 | 1.606 | 1.24 | 1.991 |
| 2.000 | 1.048 | 0.931 | 1.24 | 1.154 |
| 3.000 | 0.726 | 0.642 | 1.25 | 0.803 |
| 4.000 | 0.533 | 0.470 | 1.25 | 0.588 |
| 5.000 | 0.413 | 0.361 | 1.26 | 0.455 |

Probabilistic PGA: 0.991
Is Probabilistic $Sa_{(max)} < 1.2F_a$? NO

[1] Data Sources:
https://earthquake.usgs.gov/hazards/interactive/
https://earthquake.usgs.gov/designmaps/rtgm/

[2] Shahi-Baker RotD100/RotD50 Factors (2014)

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## DETERMINISTIC SPECTRUM

**Largest Amplitudes of Ground Motions Considering All Sources Calculated using Weighted Mean of Attenuation Equations[1]**

**Controlling Source: San Gorgonio Pass**

Is Probabilistic $Sa_{(max)}$<1.2Fa? NO

Project No: 644-22060

| Period | Deterministic PSa Median + 1.σ for 5% Damping | Max Directional Scale Factor[2] | Deterministic MCE | Section 21.2.2 Scaling Factor Applied |
|---|---|---|---|---|
| 0.010 | 0.943 | 1.19 | 1.123 | 1.123 |
| 0.020 | 0.951 | 1.19 | 1.132 | 1.132 |
| 0.030 | 0.964 | 1.19 | 1.147 | 1.147 |
| 0.050 | 1.011 | 1.19 | 1.203 | 1.203 |
| 0.075 | 1.193 | 1.19 | 1.419 | 1.419 |
| 0.100 | 1.402 | 1.19 | 1.668 | 1.668 |
| 0.150 | 1.688 | 1.20 | 2.026 | 2.026 |
| 0.200 | 1.892 | 1.20 | 2.271 | 2.271 |
| 0.250 | 2.072 | 1.21 | 2.507 | 2.507 |
| 0.300 | 2.173 | 1.22 | 2.651 | 2.651 |
| 0.400 | 2.228 | 1.23 | 2.740 | 2.740 |
| 0.500 | 2.166 | 1.23 | 2.664 | 2.664 |
| 0.750 | 1.798 | 1.24 | 2.229 | 2.229 |
| 1.000 | 1.516 | 1.24 | 1.879 | 1.879 |
| 1.500 | 1.055 | 1.24 | 1.308 | 1.308 |
| 2.000 | 0.777 | 1.24 | 0.963 | 0.963 |
| 3.000 | 0.501 | 1.25 | 0.626 | 0.626 |
| 4.000 | 0.324 | 1.25 | 0.404 | 0.404 |
| 5.000 | 0.225 | 1.26 | 0.283 | 0.283 |

Is Determinstic $Sa_{(max)}$<1.5*Fa? NO

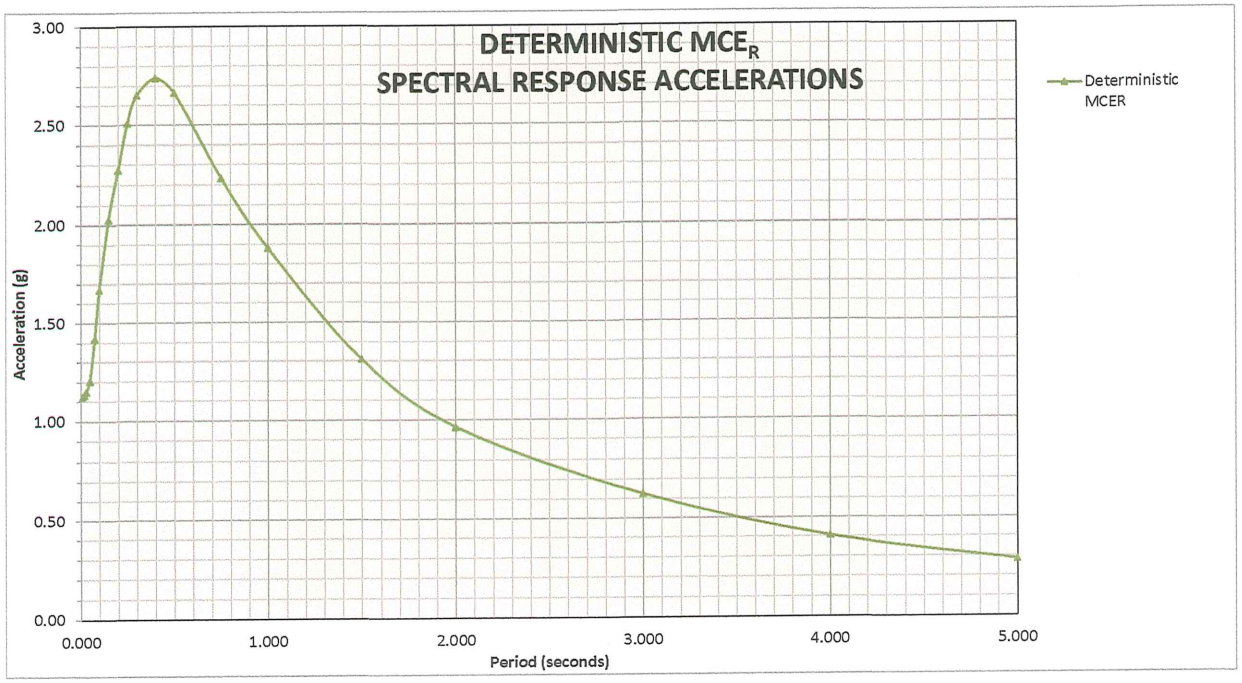
Section 21.2.2 Scaling Factor: N/A

Deterministic PGA: 0.943

Is Deterministic PGA >=$F_{PGA}$*0.5? YES

[1] NGAWest 2 GMPE worksheet and Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3) - Time Dependent Model

[2] Shahi-Baker RotD100/RotD50 Factors (2014)

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## SITE SPECIFIC SPECTRA

| Period | Probabilistic MCE | Deterministic MCE | Site-Specific MCE | Design Response Spectrum (Sa) |
|---|---|---|---|---|
| 0.010 | 1.147 | 1.123 | 1.123 | 0.748 |
| 0.100 | 1.946 | 1.668 | 1.668 | 1.112 |
| 0.200 | 2.563 | 2.271 | 2.271 | 1.514 |
| 0.300 | 2.898 | 2.651 | 2.651 | 1.767 |
| 0.500 | 2.830 | 2.664 | 2.664 | 1.776 |
| 0.750 | 2.351 | 2.229 | 2.229 | 1.486 |
| 1.000 | 1.991 | 1.879 | 1.879 | 1.253 |
| 2.000 | 1.154 | 0.963 | 0.963 | 0.642 |
| 3.000 | 0.803 | 0.626 | 0.626 | 0.417 |
| 4.000 | 0.588 | 0.404 | 0.404 | 0.270 |
| 5.000 | 0.455 | 0.283 | 0.283 | 0.197 |

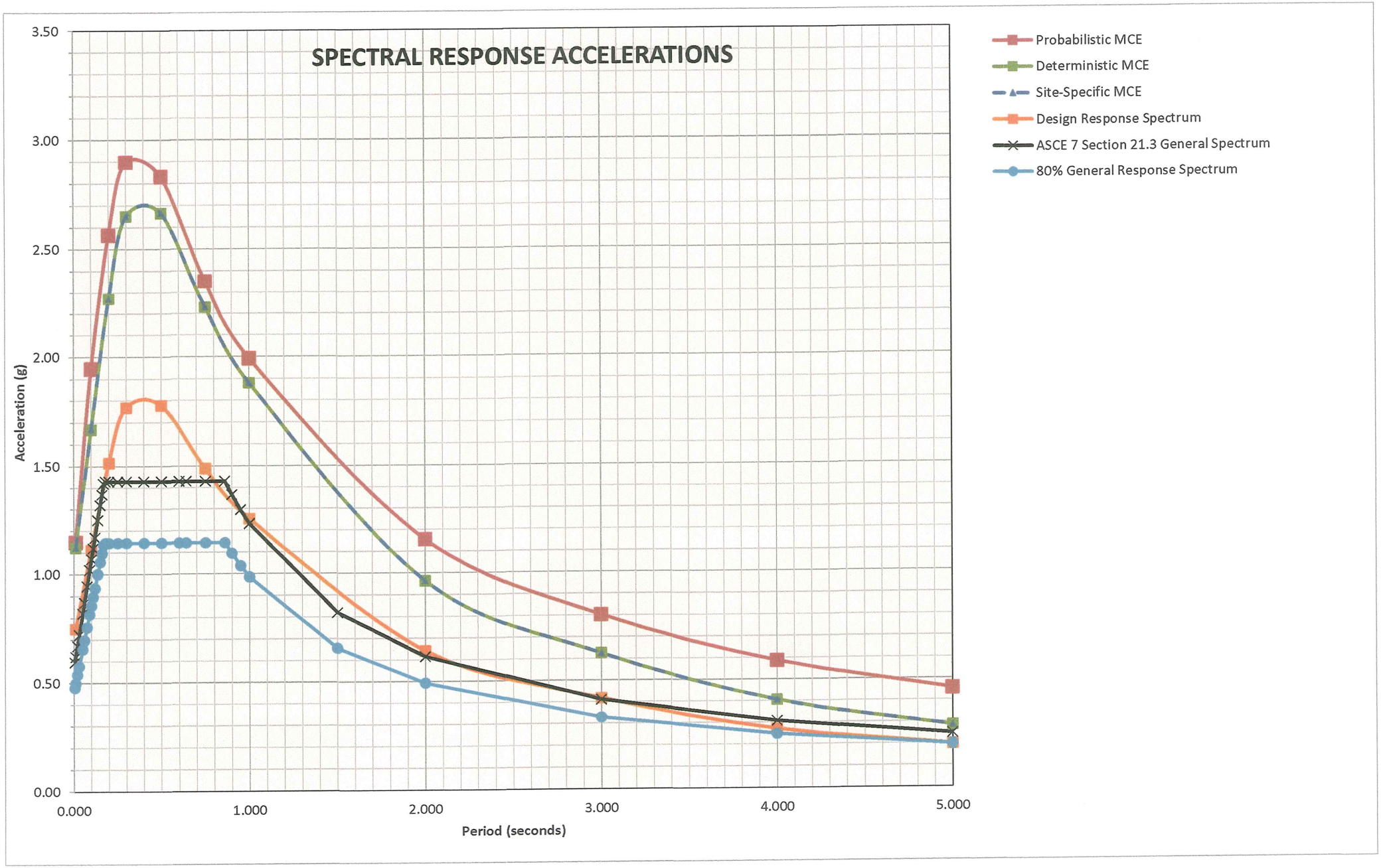
**ASCE 7-16: Section 21.4**
**Site Specific**

| | Calculated Value | Design Value |
|---|---|---|
| **SDS:** | 1.598 | 1.598 |
| **SD1:** | 1.284 | 1.284 |
| **SMS:** | 2.398 | 2.398 |
| **SM1:** | 1.926 | 1.926 |
| **Site Specific PGAm:** | 0.943 | 0.943 |
| **Site Class:** | D measured | |

**Seismic Design Category - Short*** D
**Seismic Design Category - 1s*** D
* Risk Categories I, II, or III

| Period | ASCE 7 SECTION 21.3 General Spectrum | 80% General Response Spectrum |
|---|---|---|
| 0.005 | 0.597 | 0.477 |
| 0.010 | 0.622 | 0.497 |
| 0.020 | 0.671 | 0.537 |
| 0.030 | 0.721 | 0.577 |
| 0.050 | 0.821 | 0.657 |
| 0.060 | 0.871 | 0.697 |
| 0.075 | 0.945 | 0.756 |
| 0.090 | 1.020 | 0.816 |
| 0.100 | 1.070 | 0.856 |
| 0.110 | 1.120 | 0.896 |
| 0.120 | 1.170 | 0.936 |
| 0.136 | 1.249 | 1.000 |
| 0.150 | 1.319 | 1.055 |
| 0.160 | 1.369 | 1.095 |
| 0.170 | 1.419 | 1.135 |
| 0.180 | 1.429 | 1.143 |
| 0.200 | 1.429 | 1.143 |
| 0.250 | 1.429 | 1.143 |
| 0.300 | 1.429 | 1.143 |
| 0.400 | 1.429 | 1.143 |
| 0.500 | 1.429 | 1.143 |
| 0.600 | 1.429 | 1.143 |
| 0.640 | 1.429 | 1.143 |
| 0.750 | 1.429 | 1.143 |
| 0.860 | 1.429 | 1.143 |
| 0.900 | 1.367 | 1.093 |
| 0.950 | 1.295 | 1.036 |
| 1.000 | 1.230 | 0.984 |
| 1.500 | 0.820 | 0.656 |
| 2.000 | 0.615 | 0.492 |
| 3.000 | 0.410 | 0.328 |
| 4.000 | 0.308 | 0.246 |
| 5.000 | 0.246 | 0.197 |

Project No: 644-22060


SPECTRAL RESPONSE ACCELERATIONS
Acceleration (g)
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0.000
1.000
2.000
3.000
4.000
5.000
Period (seconds)
Probabilistic MCE
Deterministic MCE
Site-Specific MCE
Design Response Spectrum
ASCE 7 Section 21.3 General Spectrum
80% General Response Spectrum

# Phase I Environmental Site Assessment

**Banning Industrial**

**1219 and 1431 West Lincoln Street**

**Banning, Riverside County, California**

**September 1, 2022**

Terracon Project No. LA227292



**Prepared for:**
Brown Strauss, Inc.
Aurora, Colorado

**Prepared by:**
Terracon Consultants, Inc.
Colton, California

terracon.com

Terracon

Environmental ■ Facilities ■ Geotechnical ■ Materials

September 1, 2022

Brown Strauss, Inc.
2495 Uravan Street
Aurora, Colorado 80011

Attn: Mr. Ryan Secrist
P: (303) 576-6215
E: rsecrist@brownstrauss.com

Re: Phase I Environmental Site Assessment
Banning Industrial
1219 and 1431 West Lincoln Street
Banning, Riverside County, California 92220
(Riverside County Assessor Parcel Numbers: 540-020, 540-180-022, and 540-180-026)
Terracon Project No. LA227292

Dear Mr. Secrist:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Phase I Environmental Site Assessment (ESA) report for the above-referenced site. This assessment was performed in accordance with Agreement for Services associated with the Terracon Proposal No. PLA227292, dated August 2, 2022.

We appreciate the opportunity to be of service to you on this project. In addition to Phase I services, our professionals provide geotechnical, environmental, construction materials, and facilities services on a wide variety of projects locally, regionally and nationally. For more detailed information on all of Terracon's services please visit our website at www.terracon.com. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
**Terracon Consultants, Inc.**

Laura S. Hedman
Staff Geologist

Jennifer S. Van
Environmental Group Manager

Tony P. Mikacich, PG
Senior Geologist / Department Manager I

Attachments

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## APPENDICES

APPENDIX A Exhibit 1 - Topographic Map, Exhibit 2 - Site Diagram

APPENDIX B Site Photographs

APPENDIX C Historical Documentation and User Questionnaire

APPENDIX D Environmental Database Information

APPENDIX E Credentials

APPENDIX F Description of Terms and Acronyms

# EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) was performed in accordance with Agreement for Services associated with the Terracon Proposal No. PLA227292, dated August 2, 2022, and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The ESA was conducted under the supervision or responsible charge of Jennifer S. Van, Environmental Professional. Sabrina Chantler performed the site reconnaissance on August 11, 2022.

## Findings and Opinions

A summary of findings is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Site Description and Use

The site is located at 1219 and 1431 West Lincoln Street in Banning, Riverside County, California 92220. The site consists of three contiguous parcels of generally vacant land, totaling approximately 14.92-acres, and identified by Riverside County assessor parcel numbers (APNs): 540-020, 540-180-022, and 540-180-026. The site is further improved with a small animal enclosure and utilities. At the time of the site reconnaissance, the site was observed to be unoccupied.

Historical Information

Based on review of the historical information, the site consisted of undeveloped land from as early as 1901, followed by agricultural land activities from at least 1938 until sometime between 1953 and 1961. By 1961, the central and eastern portions of the site appeared graded, and another homestead/dwelling and apparent trailers/containers were visible. By 1989, the homestead/dwelling on the eastern portion of the site appeared to have been removed, followed by the apparent removal of the remaining homestead/dwelling on the western portion of the site, by 1990. Based on the 2002 aerial photograph, apparent containers/trailers were visible throughout the site. By 2006, the containers/trailers appeared to have been removed; however, an apparent container/trailer was visible in the 2016 aerial photograph. Based on the 2012 aerial photograph, an apparent water tank and small animal enclosure were visible, on the southwestern portion of the site. Mr. Michael Baldi, site owner, stated that the animal enclosure was used for cattle (for a brief period of time), which were subsequently removed from the site. At the time of the visual reconnaissance, the container/trailer had been removed from the site, and site appeared generally vacant.

Historically, the site has been used for agricultural activities (orchards), from at least 1938 until sometime between 1953 and 1961, which may include the use of pesticides and herbicides. Most

currently used agricultural chemicals do not persist for extended periods of time in the environment if applied appropriately; however, some agricultural chemicals persist in the environment, especially if misapplied. In addition, structures indicative of potential mixing of pesticides and/or herbicides were not observed onsite in the historical aerial photographs reviewed. In Terracon's experience, the application of herbicides and pesticides to agricultural fields can leave trace amounts of the compounds in the soil and/or groundwater; however, these residual amounts are generally below risk-based screening levels. Pesticide and/or herbicide misuse or vegetative stress were not observed on the site during the site reconnaissance.

The surrounding properties consisted of undeveloped land, with a railroad (Southern Pacific) to the north and an existing road (West Lincoln Street) to the south. By 1938, the surrounding properties appeared as agricultural land, with two apparent homesteads/dwellings to the adjacent south. By 1949, portions of the land, north of the railroad, appeared graded, and two more homesteads/dwellings were visible, on the land to the adjacent south. By 1961, the existing highway to the north (Christopher Columbus Transcontinental Highway/Interstate 10 Freeway) appeared to be in the early stages of development, followed by commercial development (further north), an apparent commercial building developed to the east, and the land to the west appeared graded and vacant. By 1967, the freeway to the north appeared fully developed. Commercial development continued, from the 1980s through the early 2000s, with the development of the existing commercial buildings to the east (various automotive businesses such as California Collision Center, Express Tires & Auto Repair, and precision Auto Service, 1143 West Lincoln Street, and Color Fast Industries, Dicks Tire Mart, Entrada Door Inc., EPD Wearness USA Inc., First Place Powder Coating, 1177 West Lincoln Street); an apparent dwelling/structure to the west; existing commercial/construction buildings developed further southeast (Zimmerman Larry Woodworking and Trench Shoring, 1184 West Lincoln Street); and trailers/containers were visible on the land to the south-southwest. Around 2002, homesteads/dwellings appeared to have been removed from the southeast and west. The site has remained consistent through the present. Recognized environmental conditions (RECs) were not identified in connection with the historical documentation.

Records Review

Selected federal and state environmental regulatory databases as well as responses from state and local regulatory agencies were reviewed. The site was not identified in the regulatory database information.

The remaining listed facilities do not constitute RECs based upon facility characteristics, distance, and/or topographic gradient in relation to the site.

Site Reconnaissance

During the site reconnaissance, Terracon observed an approximately 800-gallon water aboveground storage tank, and a pile of asphalt debris/cuttings (approximately 1-cubic yard). RECs were not identified in connection with the site.

Adjoining Properties

The northern adjoining properties consisted of Southern Pacific railroad, followed by the Christopher Columbus Transcontinental Highway (Interstate 10 Freeway), multi-tenant retail building (1510-1431 West Ramsey Street), and a vacant retail building (1374 West Ramsey Street). The eastern adjoining properties consisted of multi-tenant commercial buildings (1143 West Lincoln Street) and multi-tenant commercial building (1177 West Lincoln Street). West Lincoln Street abutted the site to the south, followed by residential dwellings and vacant land (1222-1476 West Lincoln Street), vacant land (1184 West Lincoln Street) to the southeast, and a residential dwelling (1522 West Lincoln Street) to the southwest. The western adjoining property consisted of vacant land (1541 West Lincoln Street). RECs were not observed with the adjoining properties.

## Significant Data Gaps

Significant data gaps were not identified.

## Conclusions

We have performed a Phase I ESA consistent with the procedures included in ASTM Practice E 1527-13 of the Banning Industrial site, located at 1219 and 1431 West Lincoln Street, Banning, Riverside County, California 92220 (Riverside County Assessor Parcel Numbers: 540-020, 540-180-022, and 540-180-026), the site. RECs or Controlled RECs (CRECs) were not identified in connection with the site.

## Recommendations

Based on the scope of services, limitations, and conclusions of this assessment, Terracon does not recommend additional investigation at this time.

# 1.0 INTRODUCTION

## 1.1 Site Description

| | |
|---|---|
| **Site Name** | Banning Industrial |
| **Site Location/Address** | 1219 and 1431 West Lincoln Street, Banning, Riverside County, California (Riverside County Assessor Parcel Numbers: 540-020, 540-180-022, and 540-180-026) |
| **Land Area** | Consists of an approximately three contiguous parcels totaling approximately 14.92-acres. |
| **Site Improvements** | The site consisted of generally vacant land. |
| **Anticipated Future Site Use** | Redevelopment for commercial use |
| **Reason for the ESA** | Assist the client with acquiring the site. |

The location of the site is depicted on Exhibit 1 of Appendix A, which was reproduced from a portion of the Beaumont, California and Cabazon, California, USGS 7.5-minute series topographic map (2018). The site and adjoining properties are depicted on the Site Diagram, which is included as Exhibit 2 of Appendix A. Acronyms and terms used in this report are described in Appendix F.

## 1.2 Scope of Services

This Phase I ESA was performed in accordance with Agreement for Services associated with the Terracon Proposal No. PLA227292 dated August 2, 2022, and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The purpose of this ESA was to assist the client in developing information to identify RECs in connection with the site as reflected by the scope of this report. This purpose was undertaken through user-provided information, a regulatory database review, historical and physical records review, interviews, including local government inquiries, as applicable, and a visual noninvasive reconnaissance of the site and adjoining properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the applicable sections of the report.

ASTM E1527-13 contains a new definition of "migrate/migration," which refers to “the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface.” By including this explicit reference to migration in ASTM E1527-13, the Standard clarifies that the potential for vapor migration should be addressed as part of a Phase I ESA. This Phase I ESA has considered vapor migration in evaluation of RECs associated with the site.

## 1.3 Standard of Care

This ESA was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

## 1.4 Additional Scope Limitations, ASTM Deviations and Data Gaps

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e. evaluation of the presence of vapors within a building structure), business environmental risk evaluations, or other services not particularly identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder.

An evaluation of the significance of limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services,

regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

## 1.5 Reliance

This ESA report is prepared for the exclusive use and reliance of Brown Strauss, Inc. Use or reliance by any other party is prohibited without the written authorization of Brown Strauss Inc. and Terracon Consultants, Inc. (Terracon).

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and Terracon's Agreement for Services. The limitation of liability defined in the Agreement for Services is the aggregate limit of Terracon's liability to the client and all relying parties.

Continued viability of this report is subject to ASTM E1527-13 Sections 4.6 and 4.8. If the ESA will be used by a different user (third party) than the user for whom the ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-13.

## 1.6 Client Provided Information

Prior to the site visit, Mr. Ryan Secrist, client's representative, was asked to provide the following user questionnaire information as described in ASTM E1527-13 Section 6.

**Client Questionnaire Responses**

| Client Questionnaire Item | Client Did Not Respond | Client's Response | |
|---|---|---|---|
| | | Yes | No |
| Specialized Knowledge or Experience that is material to a REC in connection with the site. | | | X |
| Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site. | | | X |

| Client Questionnaire Item | Client Did Not Respond | Client's Response | |
|---|---|---|---|
| | | Yes | No |
| Actual Knowledge of a Lower Purchase Price because contamination is known or believed to be present at the site. | | | X |
| Commonly Known or Reasonably Ascertainable Information that is material to a REC in connection with the site. | | | X |
| Obvious Indicators of Contamination at the site. | | | X |

Terracon's consideration of the client provided information did not identify RECs. A copy of the questionnaire is included in Appendix C.

## 2.0 PHYSICAL SETTING

| Physical Setting Information | | Source |
|---|---|---|
| **Topography** | | |
| Site Elevation | Approximately 2,370 to 2,410 feet above mean sea level | USGS Topographic Maps; Beaumont, California and Cabazon, California Quadrangles, dated 2018, and *Microsoft Bing* Map Data (2022), www.bing.com/maps (Appendix A) |
| Topographic Gradient | Sloping toward the southeast | |
| Closest Surface Water | Montgomery Creek, is located approximately 1,100 feet southwest of the site. | |
| **Soil Characteristics** | | |
| Soil Type | GyC2: Greenfield sandy loam, 2 to 8 percent slopes, eroded;<br>RaB2: Ramona sandy loam, 2 to 5 percent slopes, eroded. | Riverside County, CA USDA-NRCS Web Soil Survey, issued September 13, 2021, https://websoilsurvey.sc.egov.usda.gov |
| Description | GyC2: Well drained soils. A typical soil profile consists of 0 to 26 inches below ground surface (bgs) sandy loam, 26 to 43 inches bgs fine sandy loam, 43 to 60 inches bgs loam, and 60 to 72 inches bgs stratified loamy sand to sandy loam. The parent material consists of alluvium derived from granite.<br>RaB2: Well drained soils. A typical soil profile consists of 0 to 14 inches bgs sandy loam, 14 to 23 inches bgs fine sandy loam, 23 to 68 inches bgs sandy clay loam, | |

| Physical Setting Information | | Source |
|---|---|---|
| | and 68 to 74 inches bgs gravelly sandy loam. The parent material consists of alluvium derived from granite. | |
| **Geology/Hydrogeology** | | |
| Formation | Older surficial sediments (Qf) | Geologic map of the Beaumont quadrangle, Riverside County, California (Dibblee, T.W. and Minch, J.A.; Dibblee Geological Foundation, 2003); https://ngmdb.usgs.gov/mapview |
| Description | Weakly indurated alluvial fan deposits dissected or partially so; Alluvial fan of the San Gorgonio Pass, sand and gravel of plutonic and gneissic detritus derived from rising San Bernardino mountains to the north, dissected at lower south margins (Quaternary). | |
| Estimated Depth to First Occurrence of Groundwater | Site: No data readily available. Vicinity: Approximately 519 feet bgs as measured in observation wells, located approximately 4,600 feet west of the site (last measured in October 2010). | Department of Water Resources State of California, Water Data Library; San Gorgonio Pass Subbasin Site Code No. 339231N1169081; State Well No. 03S01E08M001S; https://wdl.water.ca.gov |
| *Hydrogeologic Gradient | Not known - may be inferred to be parallel to topographic gradient (primarily to the southeast). | |

* The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

# 3.0 HISTORICAL USE INFORMATION

Terracon reviewed the following historical sources to develop a history of the previous uses of the site and surrounding area, in order to help identify RECs associated with past uses. Copies of selected historical documents are included in Appendix C.

## 3.1 Historical Topographic Maps, Aerial Photographs, Sanborn Maps

Readily available historical USGS topographic maps, selected historical aerial photographs (at approximately 10- to-15-year intervals) were reviewed to evaluate land development and obtain information concerning the history of development on and near the site. Reviewed historical topographic maps and aerial photographs are summarized below.

Historical fire insurance maps produced by the Sanborn Map Company were requested from Environmental Data Resources, Inc. (EDR) to evaluate past uses and relevant characteristics of the site and surrounding properties. EDR provided Sanborn maps were not available.

- Topographic maps:
  - San Jacinto, California; published in **1901** (1:125,000)
  - Banning, California; published in 1943 from **1941** aerial photographs; published in 1956 from **1951** aerial photographs (1:62,500)
  - Banning, California; published in **1948** (1:50,000)
  - Beaumont, California; published in 1953 from **1949** aerial photographs; published in 1972 from **1972** aerial photographs; published in 1988 from **1949** aerial photographs; published in 1996 from **1994** aerial photographs; published in **2012**, **2015**, **2018** (1:24,000)
  - Cabazon, California; published in 1956 from **1951** aerial photographs; published in 1972 from **1972** aerial photographs; published in 1988 from **1985** aerial photographs; published in 1996 from **1994** aerial photographs; published in **2012**, **2015**, **2018** (1:24,000)

- Aerial photographs:
  - USDA, **1938**, **1949**, **1953**, **1961**, **1967**, **1985**, **1989**, and **1990**, 1"=500'
  - USGS, **1975**, 1"=500'
  - USGS/DOQQ, **1996** and **2002**, 1"=500
  - USDA/NAIP, **2006**, **2009**, **2012**, and **2016**, 1"=500'

**Historical Maps and Aerial Photographs**

| Direction | Description |
|---|---|
| Site | Undeveloped land (1901); agricultural land (1938); apparent homesteads/dwellings depicted on the southern portion of the site (1949-1953); the central and eastern portions of the site appeared graded, and another homestead/dwelling and apparent trailers/containers were visible (1961-1985); the homestead/dwelling on the eastern portion of the site appeared to have been removed (1989); the remaining homestead/dwelling on the western portion of the site appeared to have been removed (1990-1996); apparent containers/trailers depicted throughout the site (2002); the containers/trailers appeared to have been removed (2006-2009); an apparent water container and small animal enclosure, located on the southwestern portion of the site (2012); an apparent container/trailer was visible (2016). |
| North | A railroad followed by undeveloped land (1901); agricultural land (1938); portions of the land, north of the railroad, appeared graded (1949-1953); early development of the existing highway, followed by commercial development (further north) (1961); the Christopher Columbus Transcontinental Highway appears fully developed (1967-2016). |
| East | Undeveloped land (1901); agricultural land (1938-1953); an apparent commercial building developed (1961-1967); agricultural activities appeared to have ceased (1975); portions of the land appeared graded (1989-2002); the existing commercial buildings developed (2006-2016). |

| Direction | Description |
|---|---|
| South | An existing road (West Lincoln Street), followed undeveloped land and a road (South 12th Street) (1901); agricultural land and two apparent homesteads/dwellings (1938); two more homesteads/dwellings were visible (1949-1967); existing construction buildings developed further southeast (1975); an existing dwelling developed (1985); trailers/containers were visible on the land to the south-southwest (1989); southeastern homesteads/dwellings appeared to have been removed (2002-2016). |
| West | Undeveloped land (1901); agricultural land (1938-1953); appears graded (1961); an apparent dwelling was visible (1985-1996); the dwelling appeared to have been removed (2002-2016). |

Historically, the site has been used for agricultural activities (orchards), from at least 1938 until sometime between 1953 and 1961, which may include the use of pesticides and herbicides. Most currently used agricultural chemicals do not persist for extended periods of time in the environment if applied appropriately; however, some agricultural chemicals persist in the environment, especially if misapplied. In addition, structures indicative of potential mixing of pesticides and/or herbicides were not observed onsite in the historical aerial photographs reviewed. In Terracon's experience, the application of herbicides and pesticides to agricultural fields can leave trace amounts of the compounds in the soil and/or groundwater; however, these residual amounts are generally below risk-based screening levels. Pesticide and/or herbicide misuse or vegetative stress were not observed on the site during the site reconnaissance.

## 3.2 Historical City Directories

EDR Digital Archive and Haines Criss-Cross Directory city directories used in this study were made available EDR (selected years reviewed: 1971-2017) and were reviewed at approximate five-year intervals, if readily available. West Lincoln Street listings not available prior to 1971. The current street address for the site was identified as 1219. 1431 West Lincoln Street was not identified in the city directories.

**Historical City Directories**

| Direction | Description |
|---|---|
| Site | **1219 West Lincoln Street**: Skare Harlan (1971); Don Cook (1976); Konnie Becerra (1980-1985); no listings (1990-2017).<br>**1431 West Lincoln Street**: no listings (1971-2017). |
| North | Unaddressed highway-no listings |

| Direction | Description |
|---|---|
| East | ***1177 West Lincoln Street***: no listings (1971-2000); Color Fast Industries (2005); Dicks Tire Mart, Entrada Door Inc., EPD Wearness USA Inc., First Place Powder Coating (2010); Entrada Door Inc., EPD Wearness USA Inc., First Place Powder Coating (2014); Entrada Door Inc., EPD Wearness USA Inc., First Place Powder Coating; I-10 Commerce Center SBDO LP (2017).<br>***1143 West Lincoln Street***: Vardanian Armen (1971-1980); no listings (1985); Pearl Vardanian (1990); no listings (1992-2000); "Occupants unknown" (2005); Bell Jeffrey, Belovac, California Collision Ctr, D&S Builders, Down Low Customz, Express Tires & Auto Repair, RTI Industries, Showcase, Tomms Auto Body (2010); Express Tires & Auto Repair, Fastenal, Harrison Air Conditioning, Harrison Contracting, i-10 Commerce Center San Bernardino, Precisions Auto Service, Pulte Homes, RTI Industries, Tomms Auto Body (2014-2017). |
| South | ***1184 West Lincoln Street***: no listings (1971-1990); Stretch Plastics (1992-1995); Zimmerman Larry Woodworking (2000-2005); *Trench Shoring* (2010-2017).<br>**1222 West Lincoln Street**: Residential listings (1971-1995); "Occupant unknown" (2000); no listings (2005-2017).<br>**1380 West Lincoln Street**: no listings (1971); Residential listings (1976-2005); Robles Pipeline Laying Inc, Southern Valley Waterfeatures (2010); Robles Toni, Southern Valley Waterfeatures (2014-2017).<br>**1430 West Lincoln Street**: Residential listings (1971-2017).<br>**1450 West Lincoln Street**: No listings (1971-1995); "Occupant unknown" (2000-2005); Residential listings (2010); "Occupant unknown" (2014), no listings (2017).<br>**1476 West Lincoln Street**: no listings (1971); Residential listings (1976-1980); no listings (1985-1992); Residential listing (1995); no listings (2000-2017).<br>**1522 West Lincoln Street**: Residential listings (1971-1995); no listings (2000); Residential listings (2005-2010); Edwards John P, John Edwards Enterprises (2014-2017). |
| West | Unaddressed vacant land - No listings (1971-2017). |

The above underlined and italicized listings are identified in the regulatory databases and are further discussed in Section 4.1.

## 3.3 Site Ownership / Title Search

Based on a review of information obtained from Texas Environmental Research of Rockwell, Texas, the site consists of APNs: 540-180-020, 540-180-022, and 540-180-026, is currently owned by Baldi Real Estate. The effective date or date indicated on the provided documents as date of data review is reported as November 7, 2018. No ownership reference is made to industrial, manufacturing, or other entities of potential environmental concern during the time period mentioned.

## 3.4 Environmental Liens and Activity and Use Limitations

At the direction of the client, performance of a review of environmental liens search was included as part of the scope of services for which Terracon engaged Texas Environmental Research of Rockwell, Texas. Based on a review of the title provider's research, environmental liens were not identified associate with the site. In addition, the EDR regulatory database report included a review of both Federal and State Engineering Control (EC) and Institutional Control (IC) databases. Based on a review of the database report, the site was not listed on the EC or IC databases.

## 3.5 Interviews Regarding Current and Historical Site Uses

The following individual was interviewed regarding the current and historical use of the site.

**Interviewee**

| Interviewer | Name / Phone # | Title | Date/Time |
|---|---|---|---|
| Ms. Laura S. Hedman | Mr. Michael Baldi / (951) 845-9521 | Site Owner, Baldi Real Estate | August 23, 2022 / Approximately 10:30 a.m. |

Terracon interviewed Mr. Michael Baldi, site owner (Baldi Real Estate), telephonically (post site reconnaissance). Mr. Baldi indicated that the site has been in the family for over 30 years, and during that time, the site has been generally vacant, and has remained consistent through the present, with the exception of a small animal enclosure, used briefly for cattle. Mr. Baldi stated that he was unaware of any on-site USTs, ASTs, wells, or septic tanks. Additionally, Mr. Baldi indicated that he was not aware of the following:

- Pending environmental litigation
- Threatened environmental litigation
- Past environmental litigation
- Possible violations of environmental laws
- Possible environmental liability
- Any potential environmental concerns

## 3.6 Prior Report Review

Terracon requested the client provide any previous environmental reports, permits, registrations, and geotechnical reports they are aware of for the site. Previous reports were not provided by the client to Terracon for review.

# 4.0 RECORDS REVIEW

Regulatory database information was provided by EDR, a contract information services company. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated. The scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the topographic gradient in relation to the site. As stated previously, the groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and the depth to the soil/bedrock interface. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

## 4.1 Federal and State/Tribal Databases

Listed below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definition, descriptions, and the database search report are included in Appendix D.

**Federal Databases**

| Database | Description | Distance (miles) | Listings |
|---|---|---|---|
| CERCLIS (SEMS) | Comprehensive Environmental Response, Compensation, & Liability Information System | 0.5 | 0 |
| CERCLIS / NFRAP (SEMS ARCHIVE) | Comprehensive Environmental Response, Compensation, & Liability Information System/No Further Remedial Action Planned | 0.5 | 0 |
| ERNS | Emergency Response Notification System | Site | 0 |
| IC / EC | Institutional Control/Engineering Control | Site | 0 |
| NPL | National Priorities List | 1.0 | 0 |
| NPL (Delisted) | National Priorities Delisted List | 0.5 | 0 |
| RCRA CORRACTS/ TSD | RCRA Corrective Action Activity | 1.0 | 0 |
| RCRA Generators | Resource Conservation and Recovery Act | Site and adjoining properties | 3 |
| RCRA NonGen / NLR | RCRA- Non-Generator / No Longer Regulated | 0.25 | 16 |

| Database | Description | Distance (miles) | Listings |
|---|---|---|---|
| RCRA Non-CORRACTS/ TSD | RCRA Non-Corrective Action Activity | 0.5 | 0 |

## State/Tribal Databases

| Database | Description | Distance (miles) | Listings |
|---|---|---|---|
| AST | Aboveground Storage Tank Facilities | Site and adjoining properties | 0 |
| CALSITES | CalSites Database | 1.0 | 0 |
| CALSITES (AWP) | Active Annual Workplan Sites | 1.0 | 0 |
| CERS | California Environmental Reporting System | Site | 0 |
| CERS HAZ WASTE | California Environmental Reporting System Hazardous Waste | 0.25 | 8 |
| CORTESE | Cortese" Hazardous Waste & Substance Site List | 0.5 | 8 |
| DRYCLEANERS | Cleaner Facilities | 0.25 | 1 |
| EDR MGP | EDR Proprietary Manufactured Gas Plants | 1.0 | 1 |
| ENVIROSTOR | Envirostor Database | 1.0 | 4 |
| HIST CORTESE | Hazardous Waste and Substance Site List | 0.5 | 7 |
| HIST UST | Hazardous Substance Storage Container Database | 0.25 | 1 |
| LUST | Leaking Underground Storage Tanks | 0.5 | 14 |
| SWEEPS UST | Statewide Environmental Evaluation Planning System Underground Storage Tank | 0.25 | 1 |
| SWF/LF | Solid Waste Facilities/Landfills | 0.5 | 0 |
| UST | Underground Storage Tank Facilities | Site and adjoining properties | 0 |
| VCP | Voluntary Cleanup Program | 0.5 | 0 |

In addition to the above ASTM-required listings, Terracon reviewed other federal, state, local, and proprietary databases provided by the database firm. A list of the additional reviewed databases is included in the regulatory database report included in Appendix D.

The site was not listed in the regulatory database report.

The following table summarizes the site-specific information provided by the database and/or gathered by this office for identified facilities. Facilities within 500 feet of the site are listed in order of proximity to the site. Additional discussion for selected facilities follows the summary table.

**Listed Facilities**

| Facility Name and Location | Estimated Distance / Direction/Gradient | Database Listings | Is a REC, CREC, or HREC to the Site |
|---|---|---|---|
| Poison Spyder Customs, Inc<br>1177 West Lincoln Street (Suite 100) | Adjoining / East / Cross-gradient | RCRA-NonGen/NLR | No, discussed below |
| Tom Malloy Corp dba Trench Shoring<br>1184 West Lincoln Street | 65 feet / South-southeast / Down-gradient | RCRA-NonGen/NLR | No, based on status, depth to groundwater, and topographic down-gradient position |
| Class Acts Autobody Inc<br>1143 West Lincoln Street (Suites 9-10) | 65 feet / East / Cross-gradient | RCRA-NonGen/NLR | No, based on status, depth to groundwater, and topographic cross-gradient position |
| Ochoa Motorsports LLC<br>1143 West Lincoln Street (Suite 13) | | | |
| Lawrence Equipment Banning<br>1879 West Lincoln Street | 490 feet / West / Cross-gradient | CERS HAZ Waste, RCRA-NonGen/NLR | No, based on status, depth to groundwater, distance, and topographic cross-gradient position |

Poison Spyder Customs, Inc. (1177 West Lincoln Street (Suite 100)

The above listed facility (vehicle bumper and vehicle exterior accessories manufacturer), identified to the adjacent east, and in a topographic cross-gradient position relative to the site, was identified in the RCRA Non-Generator/No Longer Regulated (NonGen/NLR) regulatory database. The database indicated that Poison Spyder Customs, Inc. operated under EPA ID No. CAC003022297, dated 2019, as a hardware manufacturer, with a current record, and as a non-generator of regulated hazardous waste. No violations were reported in the database. Based on review of the database, absence of release and violations, depth to groundwater, and topographic cross-gradient position relative to the site, the Poison Spyder Customs, Inc. listing does not represent a REC.

The remaining facilities listed in the database report do not appear to represent RECs to the site at this time based upon regulatory status, apparent topographic gradient, and/or distance from the site.

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The report listed six facilities in the

unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment; however, none of these facilities were identified as the site or adjacent properties. These facilities are listed in the database report in Appendix D.

## 4.2 Local Agency Inquiries

| Agency Contacted/ Contact Method | Response |
|---|---|
| County of Riverside, Department of Environmental Health (DEH) / Email: DEHRecordsMgmt@rivco.org | According to the DEH, no records were found associated with the site. |
| South Coast Air Quality Management District (SCAQMD) / online portal: http://www.aqmd.gov/nav/online-services/public-records; SCAQMD Facility Information Detail (F.I.N.D.), online database: F.I.N.D. (aqmd.gov) | According to the SCAQMD, no records were found associated with the site. Additionally, based on an online search of the SCAQMD F.I.N.D. database, no records were found associated with the site. |
| Santa Ana Regional Water Quality Control Board (RWQCB) / Email: filereview8@waterboards.ca.gov; State Water Resources Control Board; GeoTracker online portal: http://geotracker.waterboards.ca.gov | According to the RWQCB, no records were found associated with the site. Additionally, based on an online search of the GeoTracker online portal, no records were found associated with the site. |
| Department of Toxic Substances Control (DTSC) / Email: pubreqact@dtsc.ca.gov; DTSC online EnviroStor Database, www.envirostor.dtsc.ca.gov DTSC online Hazardous Waste Tracking System (HWTS) Database, https://hwts.dtsc.ca.gov | According to Tee Xiong with the Department of Toxic Substances Control, records were not identified for the site addresses. According to the DTSC online EnviroStor and HWTS databases, no records were found associated with the site. |
| Riverside County Building and Safety/ by email https://www.rctlma.org/building/Records-Request/OnSubmit/3258 | According to Sara at the Riverside Building and Safety, records were not identified for the site addresses. |
| Riverside County Land Use/Water Resources Department / by email landuserecords@rivco.org | According to the Land Use Department, no records were found associated with the site. |

| Agency Contacted/ Contact Method | Response |
|---|---|
| City of Banning City Clerk/ by online https://city-of-banning.nextrequest.com | According to the city of Banning City Clerk the following records were identified;<br>- 05/02/1985: 1219 West Lincoln Street, building permit for electric service.<br>- 09/25/1989: 1431 West Lincoln Street, building permit, for driveway/curb; plumbing permit for house sewer system. |

### 4.3 Local Area Knowledge

Based on a review of the California Department of Conservation, Geologic Energy Management Division well finder website (CalGEM GIS), the site is not identified within an oil field and there are no active or plugged oil production wells located at the site or adjoining properties.

Terracon researched on-line at the State Resources Water Control Board (SRWCB) GeoTracker database – Land Disposal Sites and landfills were not identified on-site or in the site vicinity.

## 5.0 SITE RECONNAISSANCE

### 5.1 General Site Information

Information contained in this section is based on a visual reconnaissance conducted while walking through the site and the accessible interior areas of structures, if any, located on the site. The site and adjoining properties are depicted on the Site Diagram, which is included in Exhibit 2 of Appendix A. Photo documentation of the site at the time of the visual reconnaissance is provided in Appendix B. Credentials of the individuals planning and conducting the site visit are included in Appendix E.

**General Site Information**

| | |
|---|---|
| **Site Reconnaissance** | |
| Field Personnel | Sabrina Chantler |
| Reconnaissance Date | August 11, 2022 |
| Weather Conditions | Sunny, 90° F |
| Site Contact/Title | Mr. Michael Baldi / Site Owner |
| **Site / Vicinity Utilities** | |
| Drinking Water | City of Banning |
| Wastewater | City of Banning |
| Electric | Southern California Edison (SCE) |

| Site Reconnaissance | |
|---|---|
| Natural Gas | Southern California Gas Company (SoCalGas) |

## 5.2 Overview of Current Site Occupants and Site Operations

The site consisted of an approximately 14.92-acre parcel of vacant grassy land. The site was observed to be unoccupied.

## 5.3 Site Observations

The following table summarizes site observations and interviews. Affirmative responses (designated by an "X") are discussed in more detail following the table.

**Site Characteristics**

| Category | Item or Feature | Observed or Identified |
|---|---|---|
| Site Operations, Processes, and Equipment | Emergency generators | |
| | Elevators | |
| | Air compressors | |
| | Hydraulic lifts | |
| | Dry cleaning | |
| | Photo processing | |
| | Ventilation hoods and/or incinerators | |
| | Waste treatment systems and/or water treatment systems | |
| | Heating and/or cooling systems | |
| | Paint booths | |
| | Sub-grade mechanic pits | |
| | Wash-down areas or carwashes | |
| | Pesticide/herbicide production or storage | |
| | Printing operations | |
| | Metal finishing (e.g., electroplating, chrome plating, galvanizing, etc.) | |
| | Salvage operations | |
| | Oil, gas or mineral production | |
| | Other processes or equipment | |
| Aboveground Chemical or Waste Storage | Aboveground storage tanks | X |
| | Drums, barrels and/or containers ≥ 5 gallons | |
| | MSDS or SDS | |

| Category | Item or Feature | Observed or Identified |
|---|---|---|
| Underground Chemical or Waste Storage, Drainage or Collection Systems | Underground storage tanks or ancillary UST equipment | |
| | Sumps, cisterns, French drains, catch basins and/or dry wells | |
| | Grease traps | |
| | Septic tanks and/or leach fields | |
| | Oil/water separators, clarifiers, sand traps, triple traps, interceptors | |
| | Pipeline markers | |
| | Interior floor drains | |
| Electrical Transformers/ PCBs | Transformers and/or capacitors | |
| | Other equipment | |
| Releases or Potential Releases | Stressed vegetation | |
| | Stained soil | |
| | Stained pavement or similar surface | |
| | Leachate and/or waste seeps | |
| | Trash, debris and/or other waste materials | |
| | Dumping or disposal areas | |
| | Construction/demolition debris and/or dumped fill dirt | X |
| | Surface water discoloration, odor, sheen, and/or free floating product | |
| | Strong, pungent or noxious odors | |
| | Exterior pipe discharges and/or other effluent discharges | |
| Other Notable Site Features | Surface water bodies | |
| | Quarries or pits | |
| | Wastewater lagoons | |
| | Wells | |

## Aboveground Chemical or Waste Storage

Aboveground storage tanks

During the site reconnaissance, Terracon observed an apparent approximately 800-gallon capacity water container, located on the southwestern corner of the site. No evidence of chemical waste disposal, noxious odors, or other indications of releases were observed near the vicinity of the water container. Based on visual observations, the water container does not constitute a REC to the site.

### Releases or Potential Releases

Construction/demolition debris and/or dumped fill dirt

At the time of the site reconnaissance, Terracon observed a pile of asphalt debris/cuttings (approximately 1-cubic yard), located on the southern portion of the site. No evidence of chemical waste disposal, noxious odors, or other indications of releases were observed near the vicinity of the asphalt debris pile. Based on visual observations, the asphalt debris pile does not constitute a REC to the site.

## 6.0 ADJOINING PROPERTY RECONNAISSANCE

Visual observations of adjoining properties (from site boundaries) are summarized below.

**Adjoining Properties**

| Direction | Description |
|---|---|
| North | The northern adjoining properties consisted of a Southern Pacific railroad, followed by the Christopher Columbus Transcontinental Highway, multi-tenant retail building (1510-1431 West Ramsey Street), and a vacant retail building (1374 West Ramsey Street). |
| East | The eastern adjoining properties consisted of multi-tenant commercial buildings (1143 West Lincoln Street) and multi-tenant commercial building (1177 West Lincoln Street). |
| South | The southern adjoining properties consisted of West Lincoln Street, followed by residential dwellings and vacant land (1222-1476 West Lincoln Street), vacant land (1184 West Lincoln Street) to the southeast, and a residential dwelling (1522 West Lincoln Street) to the southwest. |
| West | The western adjoining property consists of vacant land (1541 West Lincoln Street). |

RECs were not observed with the adjoining properties.

## 7.0 ADDITIONAL SERVICES

Per the agreed scope of services specified in the proposal, additional services (e.g. asbestos sampling, lead-based paint sampling, wetlands evaluation, lead in drinking water testing, radon testing, vapor encroachment screening, etc.) were not conducted.

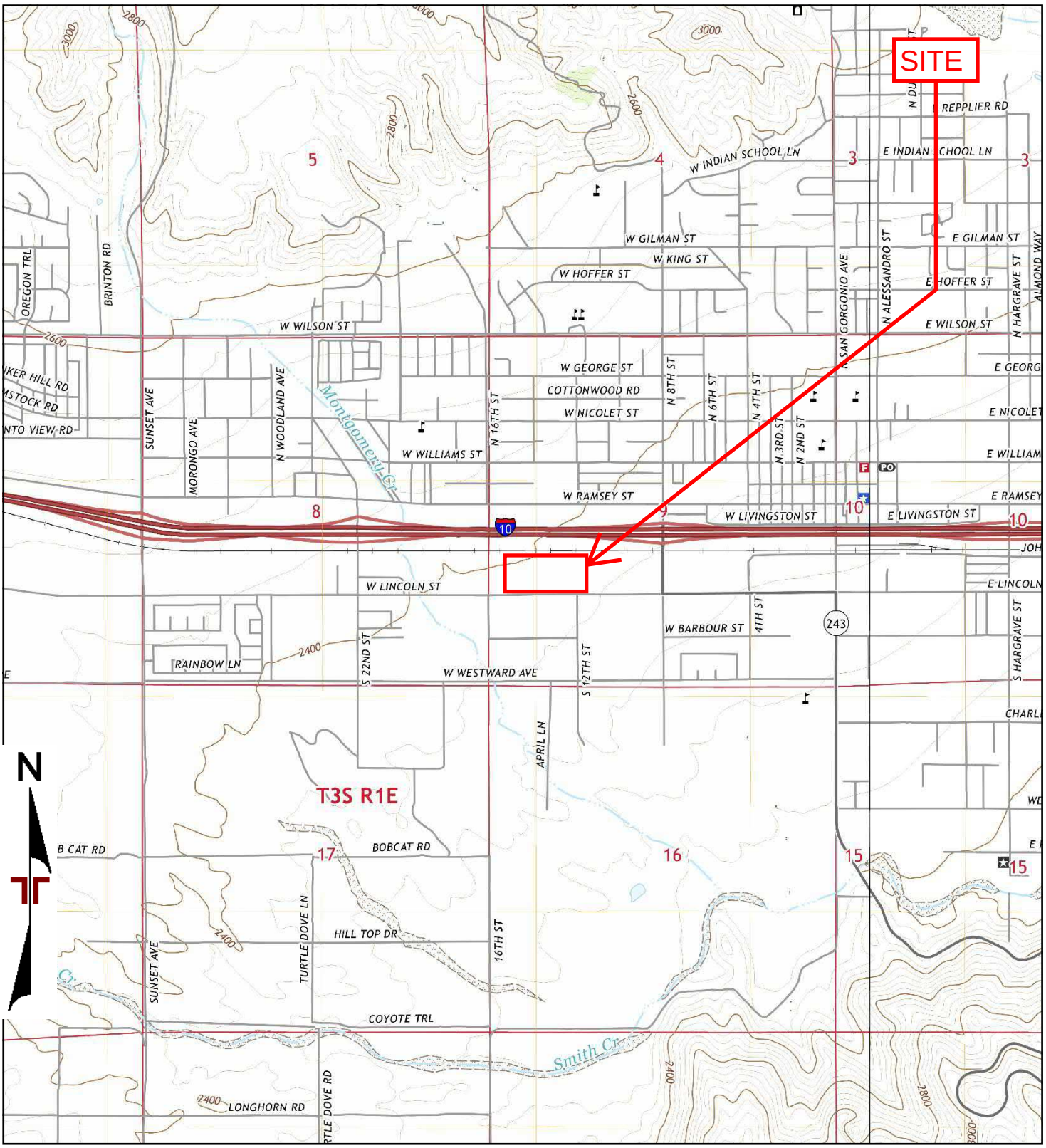
# 8.0 DECLARATION

I, Jennifer S. Van, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Jennifer S. Van
Environmental Group Manager

# APPENDIX A
# EXHIBIT 1 – TOPOGRAPHIC MAP
# EXHIBIT 2 – SITE DIAGRAM




TP, Beaumont, 2018, 7.5-minute
E, Cabazon, 2018, 7.5-minute

0 Miles 0.25 0.5 1 1.5

| | |
|---|---|
| Project Manager: JSV | Project No. LA227292 |
| Drawn by: SHC | Scale: As Shown |
| Checked by: JSV | File Name: NA |
| Approved by: JSV | Date: 2022 |

Terracon
1355 East Cooley Drive
Colton, California 92324

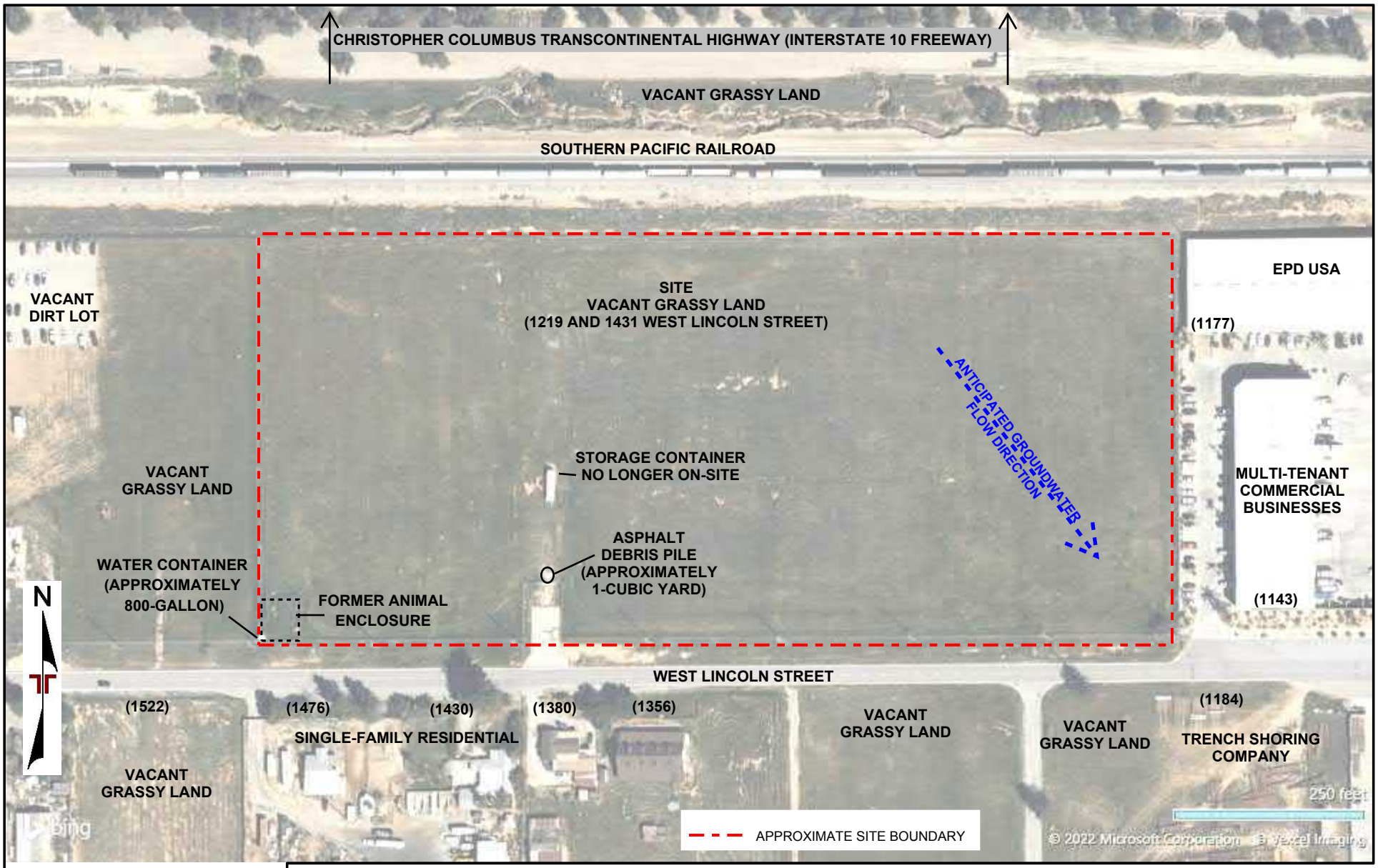
# TOPOGRAPHIC MAP

## BANNING INDUSTRIAL

1219 AND 1431 WEST LINCOLN STREET

BANNING, RIVERSIDE COUNTY, CALIFORNIA 92220

Exhibit 1




AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

| | |
|---|---|
| Project Manager: JSV | Project No. LA227292 |
| Drawn by: LSH | Scale: AS SHOWN |
| Checked by: LSH | File Name: N/A |
| Approved by: JSV | Date: 8/11/2022 |

Terracon
1355 East Cooley Drive
Colton, California 92248

# SITE DIAGRAM

## BANNING INDUSTRIAL
**1219 AND 1431 WEST LINCOLN STREET**
**BANNING, RIVERSIDE COUNTY, CALIFORNIA 92220**

Exhibit
2

# APPENDIX B
# SITE PHOTOGRAPHS



**Photo #1** View of the southern portion of the site facing north.



**Photo #2** View of the western portion of the site facing east.



**Photo #3** View of the northern portion of the site facing south.



**Photo #4** View of the eastern portion of the site facing west.



**Photo #5** View of animal enclosure (vacant) with an approximately 800-gallon water container located on the southwestern portion of the site.



**Photo #6** View of the northern adjoining, a railroad, followed by the Christopher Columbus Transcontinental Highway.




**Photo #7** View of the further northern adjoining properties, multi-tenant retail building (1510-1431 West Ramsey Street).




**Photo #8** View of the northeastern adjoining property, vacant retail building (1374 West Ramsey Street).



**Photo #9** View of southeastern adjoining property, multi-tenant commercial buildings (1143 West Lincoln Street).



**Photo #10** View of northeastern adjoining property, multi-tenant commercial building (1177 West Lincoln Street).



**Photo #11** View of southern adjoining properties, dwellings and vacant land (1222-1476 West Lincoln Street).



**Photo #12** View of the southeastern adjoining property, vacant land (1184 West Lincoln Street).



**Photo #13** View of the southwestern adjoining property, dwelling (1522 West Lincoln Street).



**Photo #14** View of the western adjoining property, vacant land (1541 West Lincoln Street).

# APPENDIX C
# HISTORICAL DOCUMENTATION AND USER QUESTIONNAIRE

Banning Industrial

1219 and 1431 West Lincoln Street
Banning, Riverside County, California 92220

Inquiry Number: 7078092.4

August 05, 2022

# EDR Historical Topo Map Report

## with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

# EDR Historical Topo Map Report

08/05/22

| Site Name: | Client Name: |
|---|---|
| Banning Industrial | Terracon |
| 1431 and 1219 West Lincoln S | 23041 Avenida De La Carlota Ste 350 |
| Banning, CA 92220 | Laguna Hills, CA 92653 |
| EDR Inquiry # 7078092.4 | Contact: Sabrina Chantler |

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Terracon were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

| *Search Results:* | | *Coordinates:* | |
|---|---|---|---|
| **P.O.#** | NA | **Latitude:** | 33.922496 33° 55' 21" North |
| **Project:** | LA227292 | **Longitude:** | -116.892525 -116° 53' 33" West |
| | | **UTM Zone:** | Zone 11 North |
| | | **UTM X Meters:** | 509934.09 |
| | | **UTM Y Meters:** | 3753567.74 |
| | | **Elevation:** | 2394.04' above sea level |

**Maps Provided:**

| | |
|---|---|
| 2018 | 1948 |
| 2015 | 1943 |
| 2012 | 1901 |
| 1996 | |
| 1988 | |
| 1972 | |
| 1956 | |
| 1953, 1956 | |

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## *Topo Sheet Key*

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 2018 Source Sheets

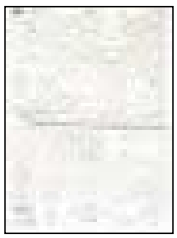


Beaumont
2018
7.5-minute, 24000

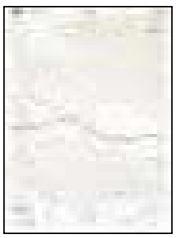


Cabazon
2018
7.5-minute, 24000

### 2015 Source Sheets

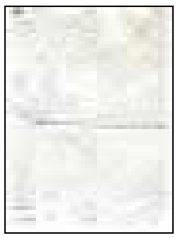


Beaumont
2015
7.5-minute, 24000

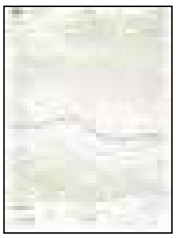


Cabazon
2015
7.5-minute, 24000

### 2012 Source Sheets



Beaumont
2012
7.5-minute, 24000



Cabazon
2012
7.5-minute, 24000

### 1996 Source Sheets



Beaumont
1996
7.5-minute, 24000
Aerial Photo Revised 1994

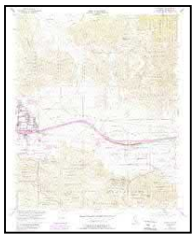


Cabazon
1996
7.5-minute, 24000
Aerial Photo Revised 1994

## *Topo Sheet Key*

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 1988 Source Sheets



Cabazon
1988
7.5-minute, 24000
Aerial Photo Revised 1985

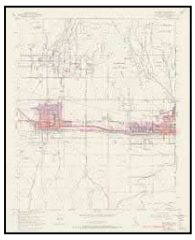


Beaumont
1988
7.5-minute, 24000
Aerial Photo Revised 1949

### 1972 Source Sheets



Cabazon
1972
7.5-minute, 24000
Aerial Photo Revised 1972



Beaumont
1972
7.5-minute, 24000
Aerial Photo Revised 1972

### 1956 Source Sheets



Banning
1956
15-minute, 62500
Aerial Photo Revised 1951

### 1953, 1956 Source Sheets



Beaumont
1953
7.5-minute, 24000
Aerial Photo Revised 1949



Cabazon
1956
7.5-minute, 24000
Aerial Photo Revised 1951

## *Topo Sheet Key*

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 1948 Source Sheets



BANNING
1948
15-minute, 50000

### 1943 Source Sheets

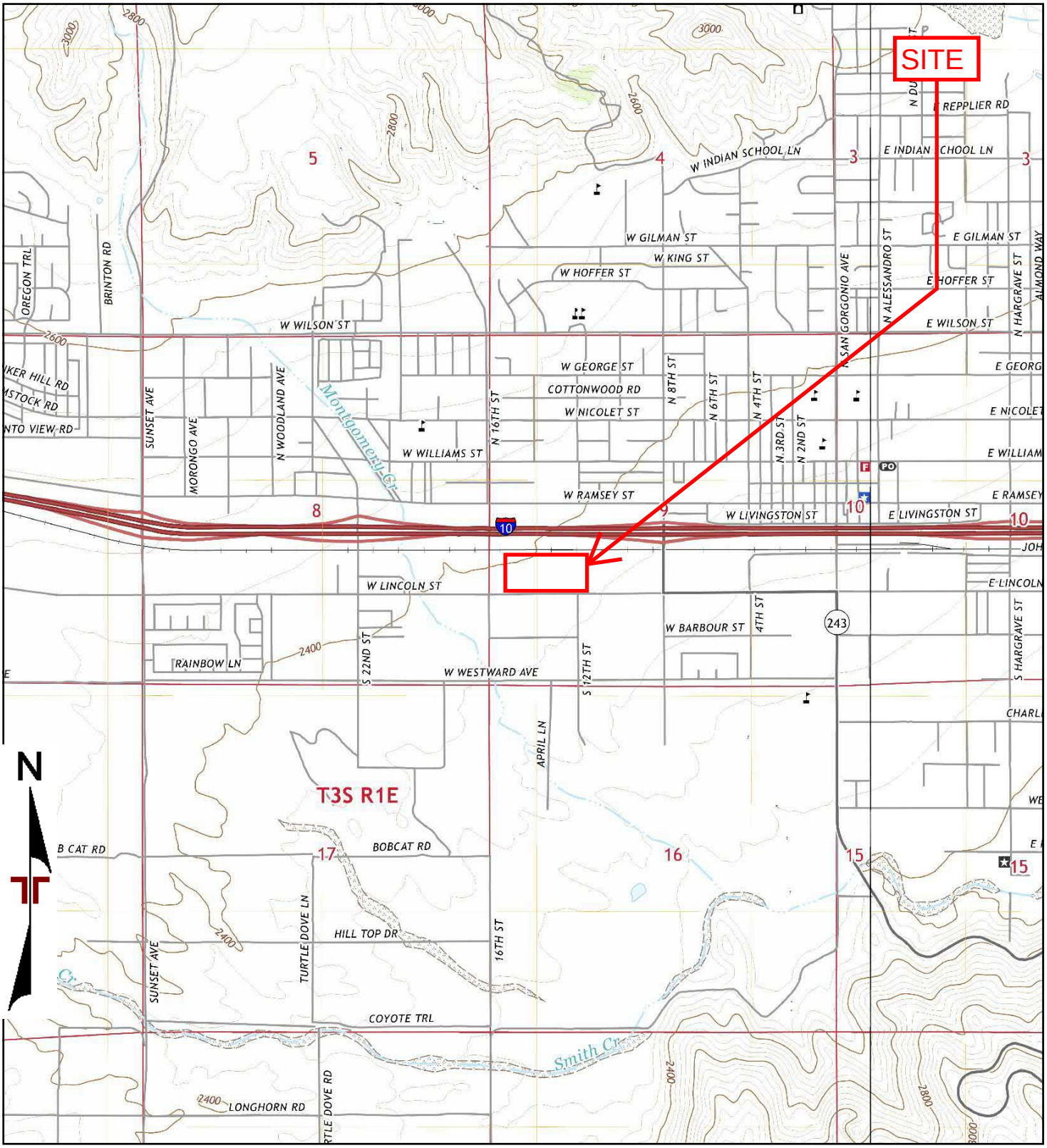


Banning
1943
15-minute, 62500
Aerial Photo Revised 1941

### 1901 Source Sheets



San Jacinto
1901
30-minute, 125000




TP, Beaumont, 2018, 7.5-minute
E, Cabazon, 2018, 7.5-minute

0 Miles 0.25 0.5 1 1.5

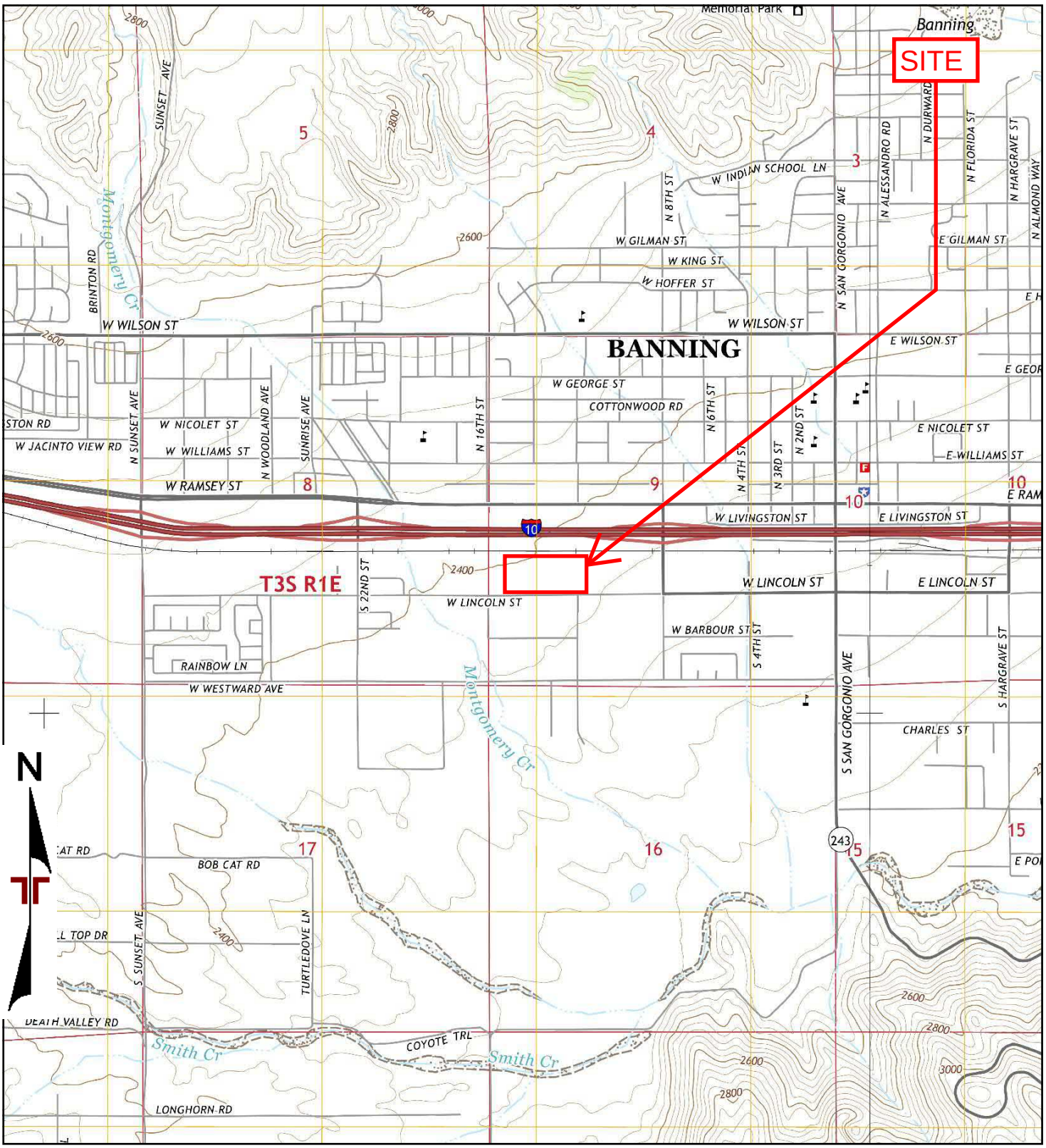
| | |
|---|---|
| Project Manager: JSV | Project No. LA227292 |
| Drawn by: SHC | Scale: As Shown |
| Checked by: JSV | File Name: NA |
| Approved by: JSV | Date: 2018 |

Terracon
1355 East Cooley Drive
Colton, California 92324

2018 TOPOGRAPHIC MAP

BANNING INDUSTRIAL
1219 AND 1431 WEST LINCOLN STREET
BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220

Appendix C




TP, Beaumont, 2015, 7.5-minute
E, Cabazon, 2015, 7.5-minute

0 Miles 0.25 0.5 1 1.5

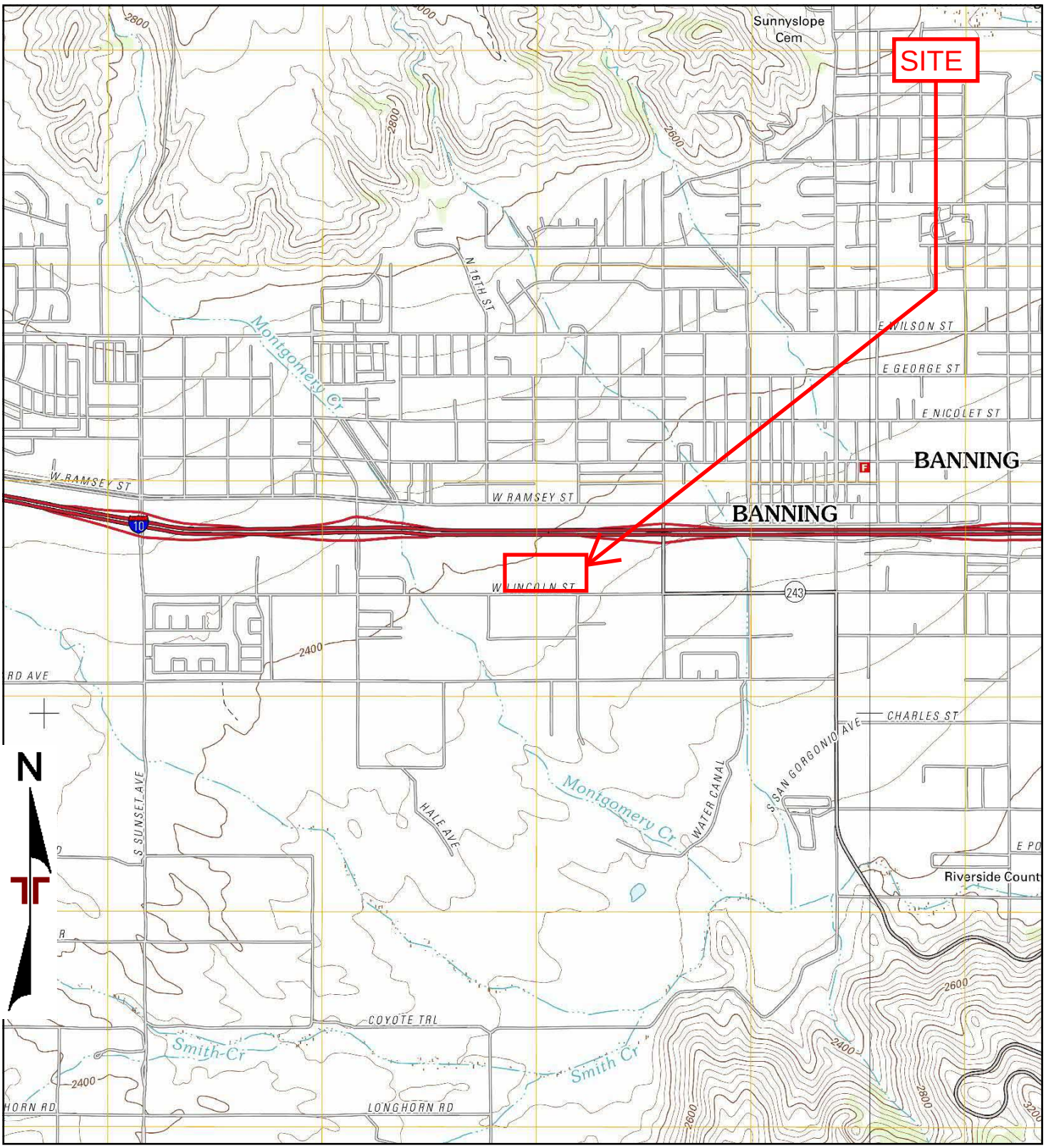
| | |
|---|---|
| Project Manager: JSV | Project No. LA227292 |
| Drawn by: SHC | Scale: As Shown |
| Checked by: JSV | File Name: NA |
| Approved by: JSV | Date: 2015 |

Terracon
1355 East Cooley Drive
Colton, California 92324

2015 TOPOGRAPHIC MAP

BANNING INDUSTRIAL
1219 AND 1431 WEST LINCOLN STREET
BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220

Appendix C




TP, Beaumont, 2012, 7.5-minute
E, Cabazon, 2012, 7.5-minute

0 Miles 0.25 0.5 1 1.5

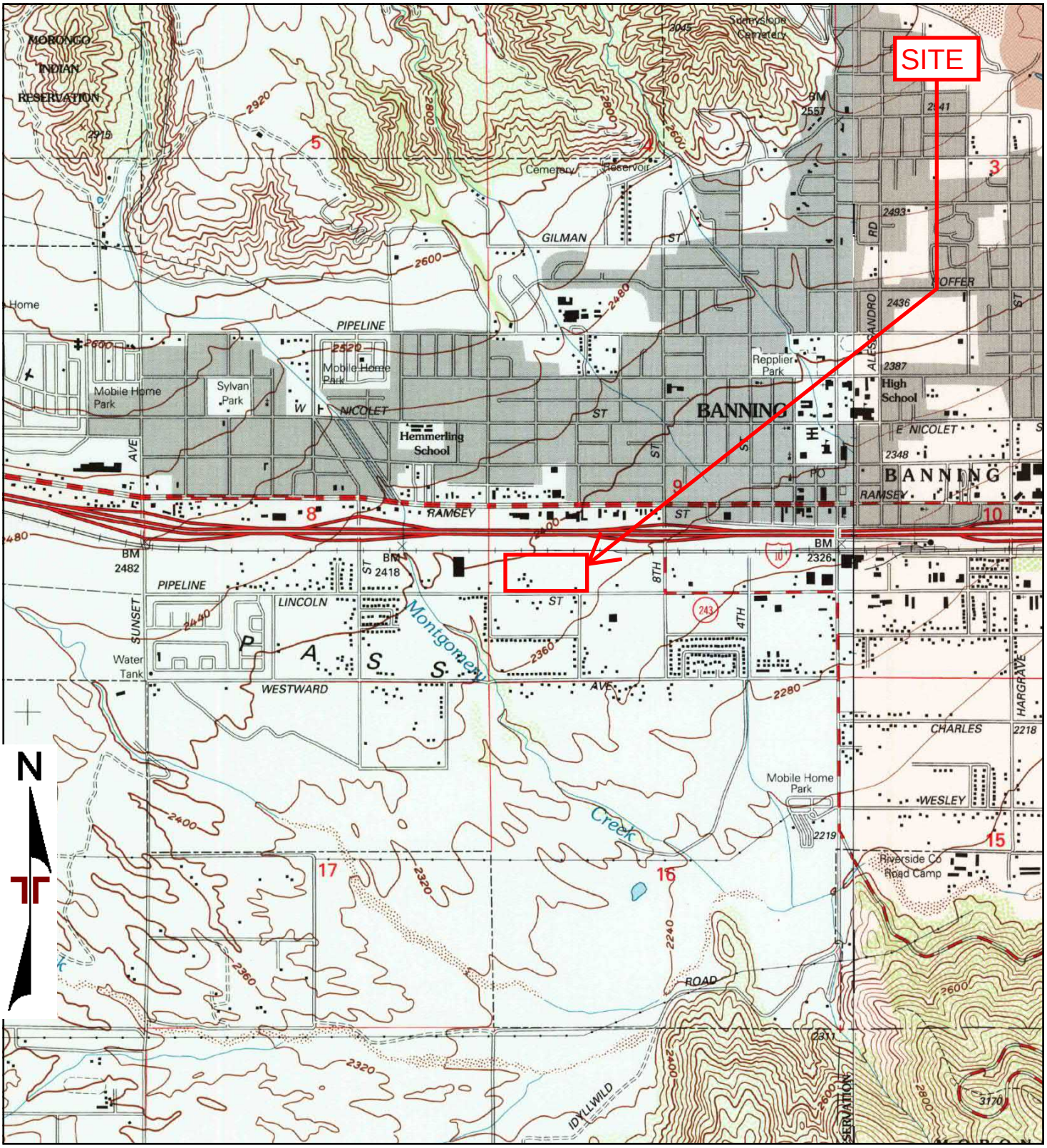
| | |
|---|---|
| Project Manager: JSV | Project No. LA227292 |
| Drawn by: SHC | Scale: As Shown |
| Checked by: JSV | File Name: NA |
| Approved by: JSV | Date: 2012 |

Terracon
1355 East Cooley Drive
Colton, California 92324

2012 TOPOGRAPHIC MAP

BANNING INDUSTRIAL
1219 AND 1431 WEST LINCOLN STREET
BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220

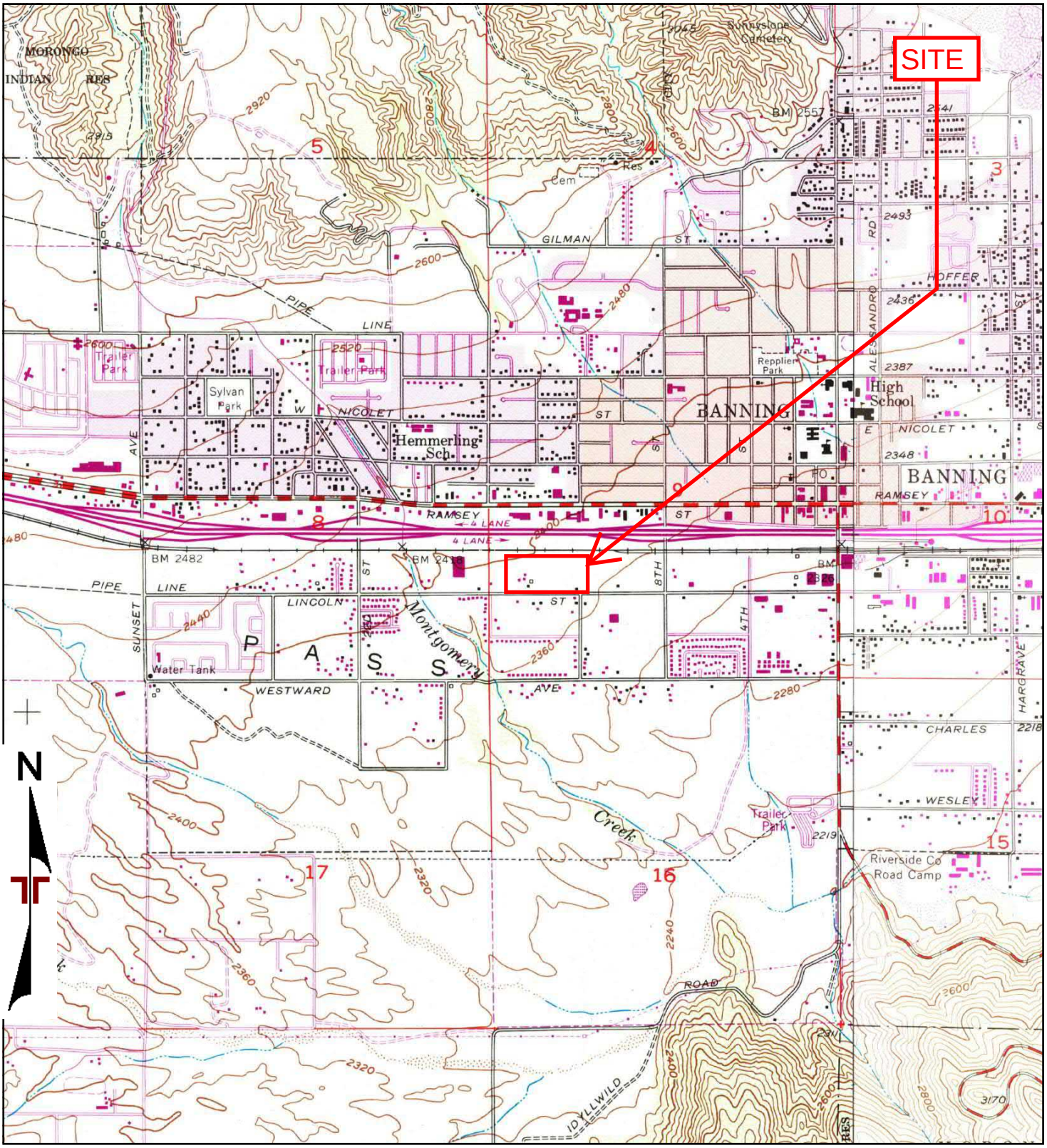
Appendix C




TP, Beaumont, 1996, 7.5-minute
E, Cabazon, 1996, 7.5-minute

0 Miles 0.25 0.5 1 1.5

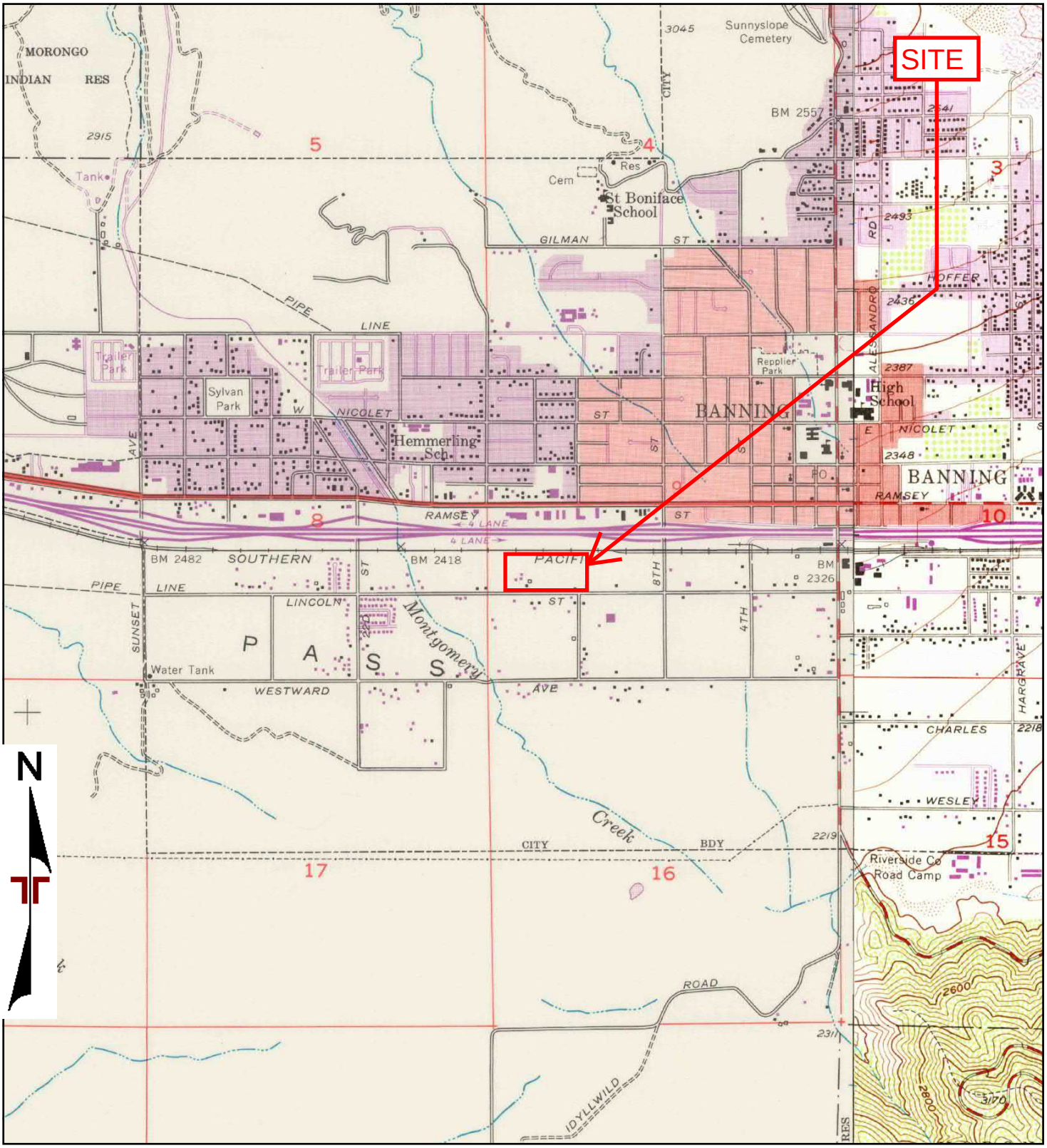
| | | | |
|---|---|---|---|
| Project Manager: JSV | Project No. LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 1996 TOPOGRAPHIC MAP<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 | Appendix<br>C |
| Drawn by: SHC | Scale: As Shown | | | |
| Checked by: JSV | File Name: NA | | | |
| Approved by: JSV | Date: 1996 | | | |




TP, Beaumont, 1988, 7.5-minute
E, Cabazon, 1988, 7.5-minute

0 Miles 0.25 0.5 1 1.5

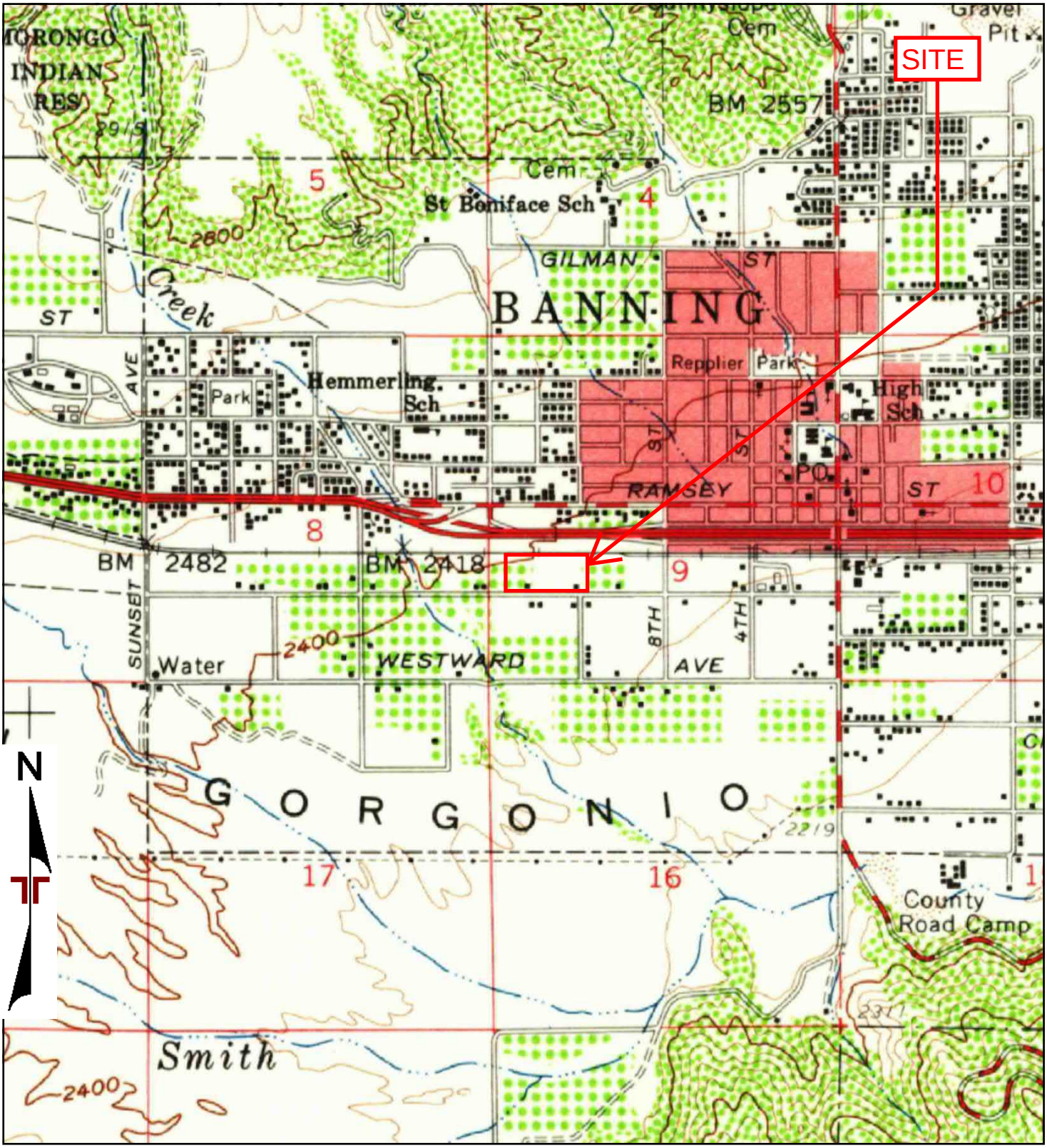
| | | | |
|---|---|---|---|
| Project Manager: JSV | Project No. LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 1988 TOPOGRAPHIC MAP<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 | Appendix<br>C |
| Drawn by: SHC | Scale: As Shown | | | |
| Checked by: JSV | File Name: NA | | | |
| Approved by: JSV | Date: 1988 | | | |




TP, Beaumont, 1972, 7.5-minute
E, Cabazon, 1972, 7.5-minute

0 Miles 0.25 0.5 1 1.5

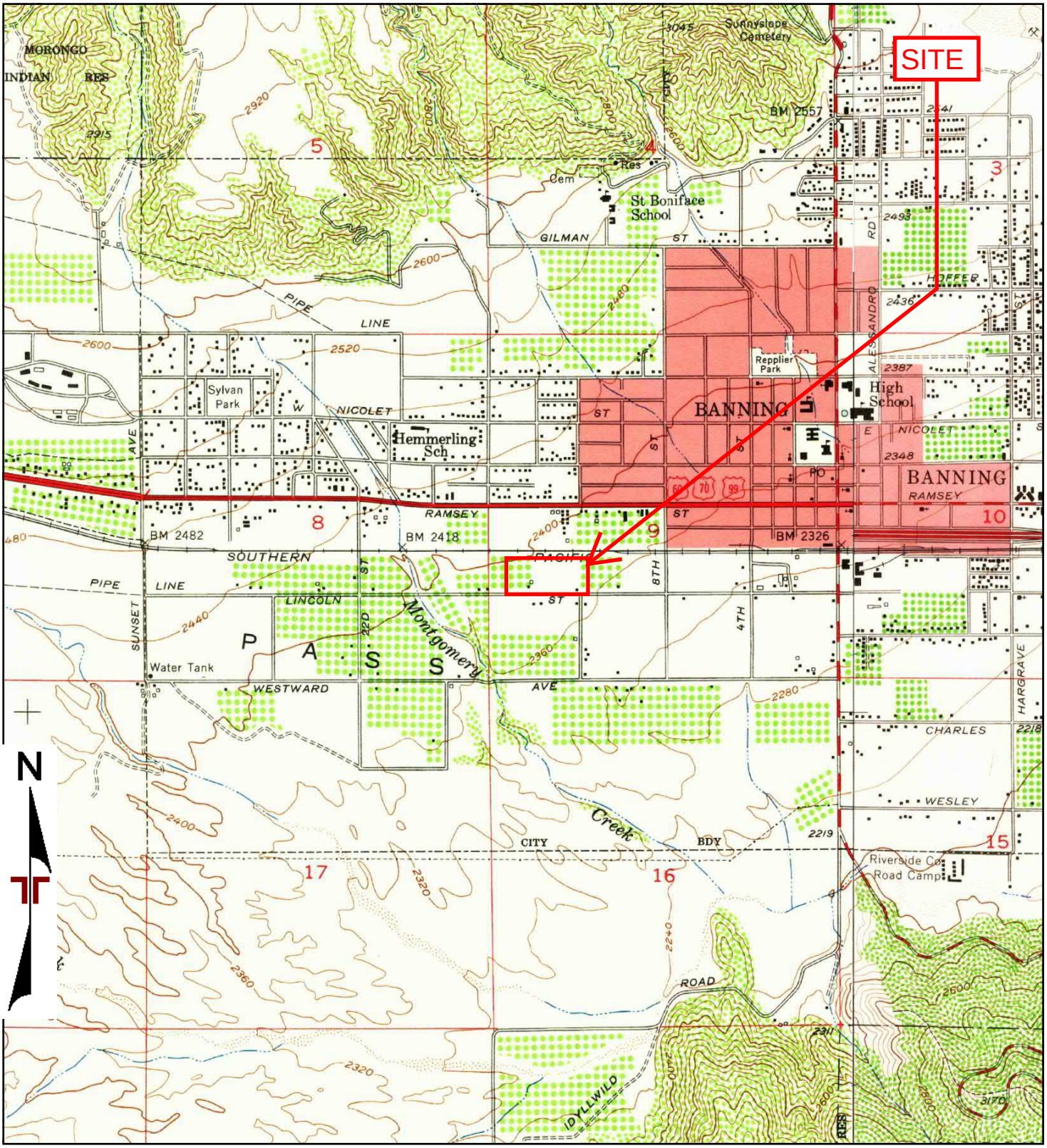
| | | | |
|---|---|---|---|
| Project Manager: JSV | Project No. LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 1972 TOPOGRAPHIC MAP<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 |
| Drawn by: SHC | Scale: As Shown | | Appendix C |
| Checked by: JSV | File Name: NA | | |
| Approved by: JSV | Date: 1972 | | |




TP, Banning, 1956, 15-minute

0 Miles 0.25 0.5 1 1.5

| | | | |
|---|---|---|---|
| Project Manager: JSV | Project No. LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 1956 TOPOGRAPHIC MAP<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 |
| Drawn by: SHC | Scale: As Shown | | Appendix<br>C |
| Checked by: JSV | File Name: NA | | |
| Approved by: JSV | Date: 1956 | | |




TP, Beaumont, 1953, 7.5-minute
E, Cabazon, 1956, 7.5-minute

0 Miles 0.25 0.5 1 1.5

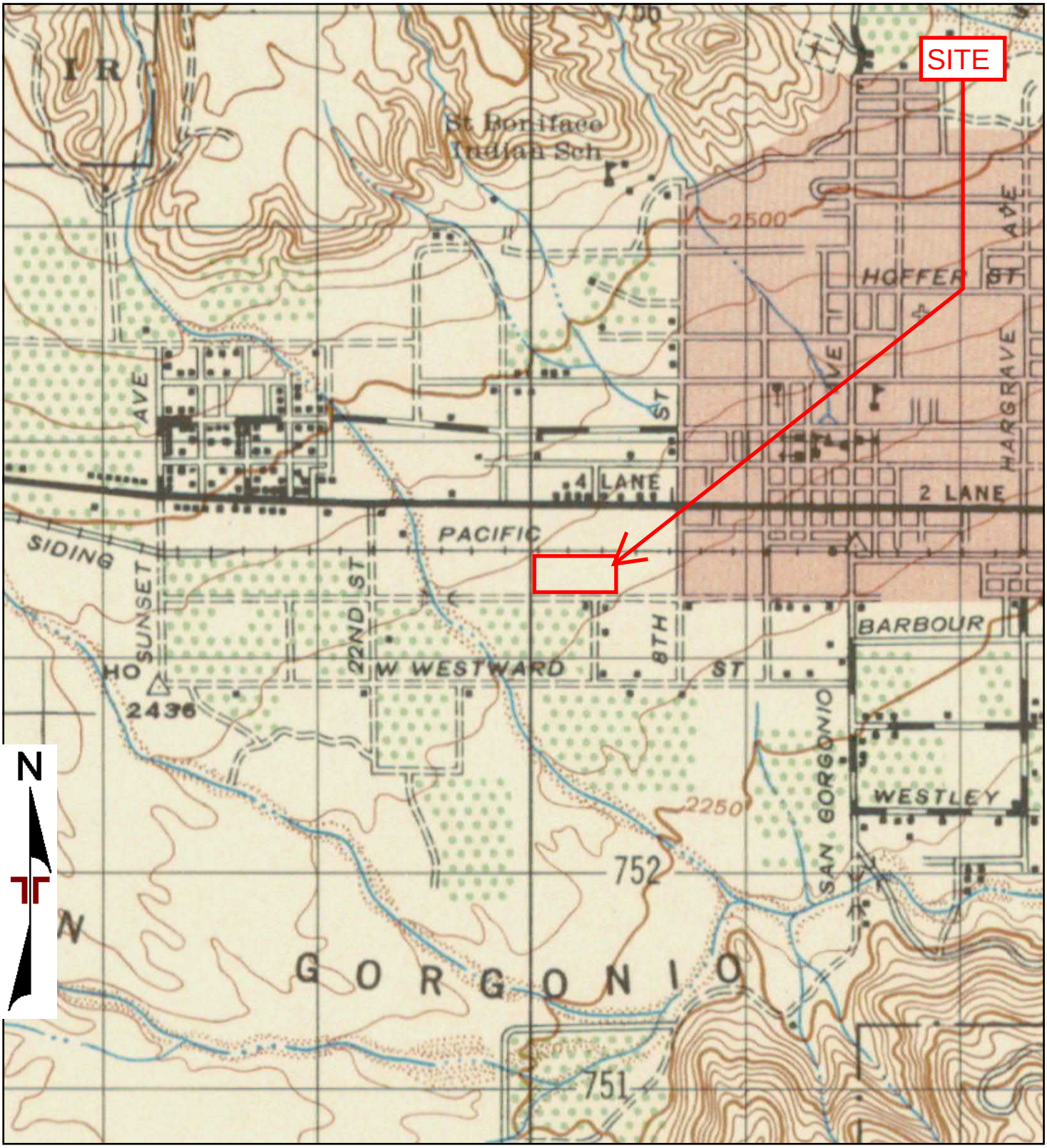
| | |
|---|---|
| Project Manager: JSV | Project No. LA227292 |
| Drawn by: SHC | Scale: As Shown |
| Checked by: JSV | File Name: NA |
| Approved by: JSV | Date: 1953, 1956 |

Terracon
1355 East Cooley Drive
Colton, California 92324

1953, 1956 TOPOGRAPHIC MAP

BANNING INDUSTRIAL
1219 AND 1431 WEST LINCOLN STREET
BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220

Appendix C




TP, BANNING, 1948, 15-minute

0 Miles 0.25 0.5 1 1.5

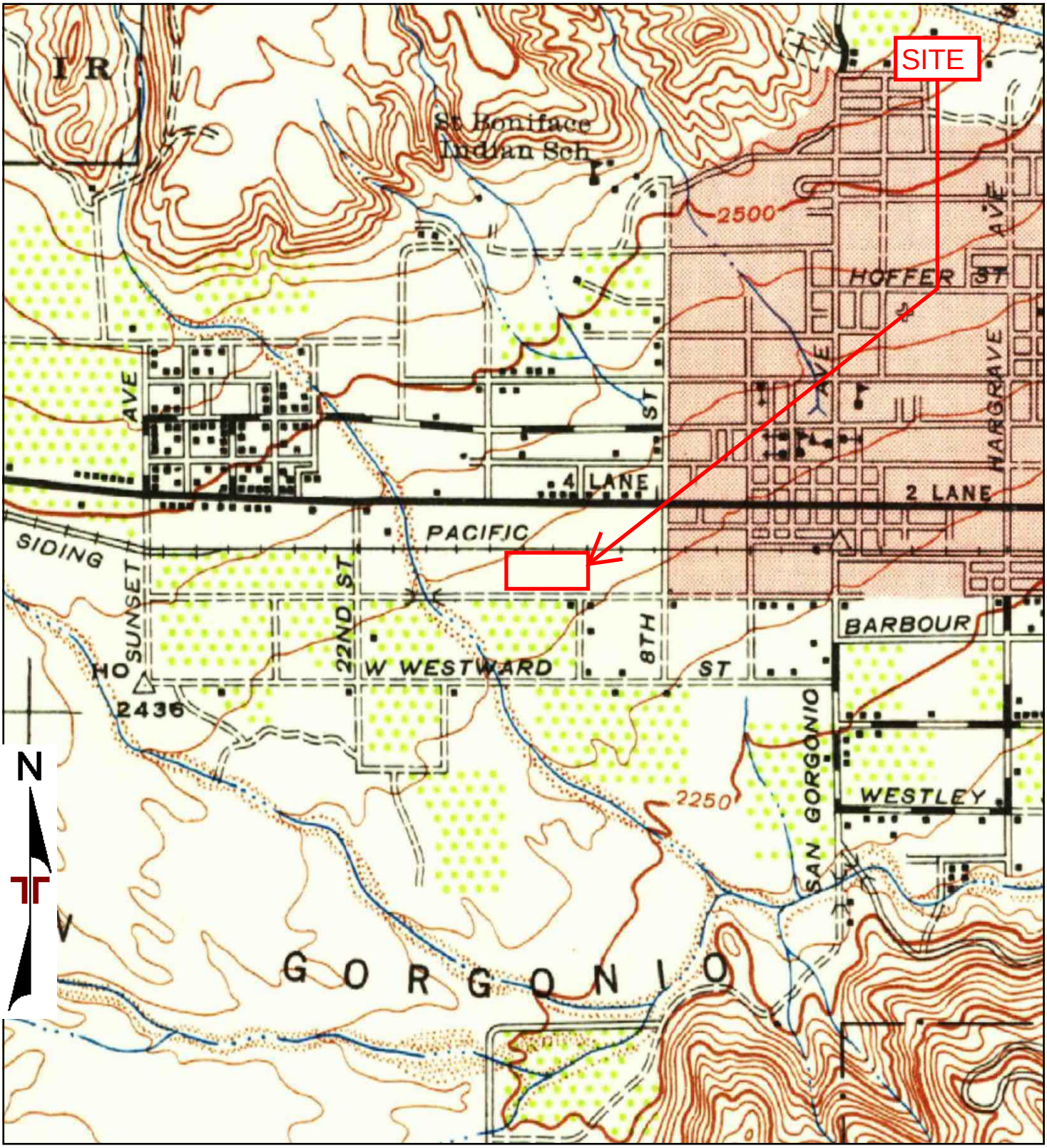
| | |
|---|---|
| Project Manager: JSV | Project No. LA227292 |
| Drawn by: SHC | Scale: As Shown |
| Checked by: JSV | File Name: NA |
| Approved by: JSV | Date: 1948 |

Terracon
1355 East Cooley Drive
Colton, California 92324

1948 TOPOGRAPHIC MAP

BANNING INDUSTRIAL
1219 AND 1431 WEST LINCOLN STREET
BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220

Appendix C




TP, Banning, 1943, 15-minute

0 Miles 0.25 0.5 1 1.5

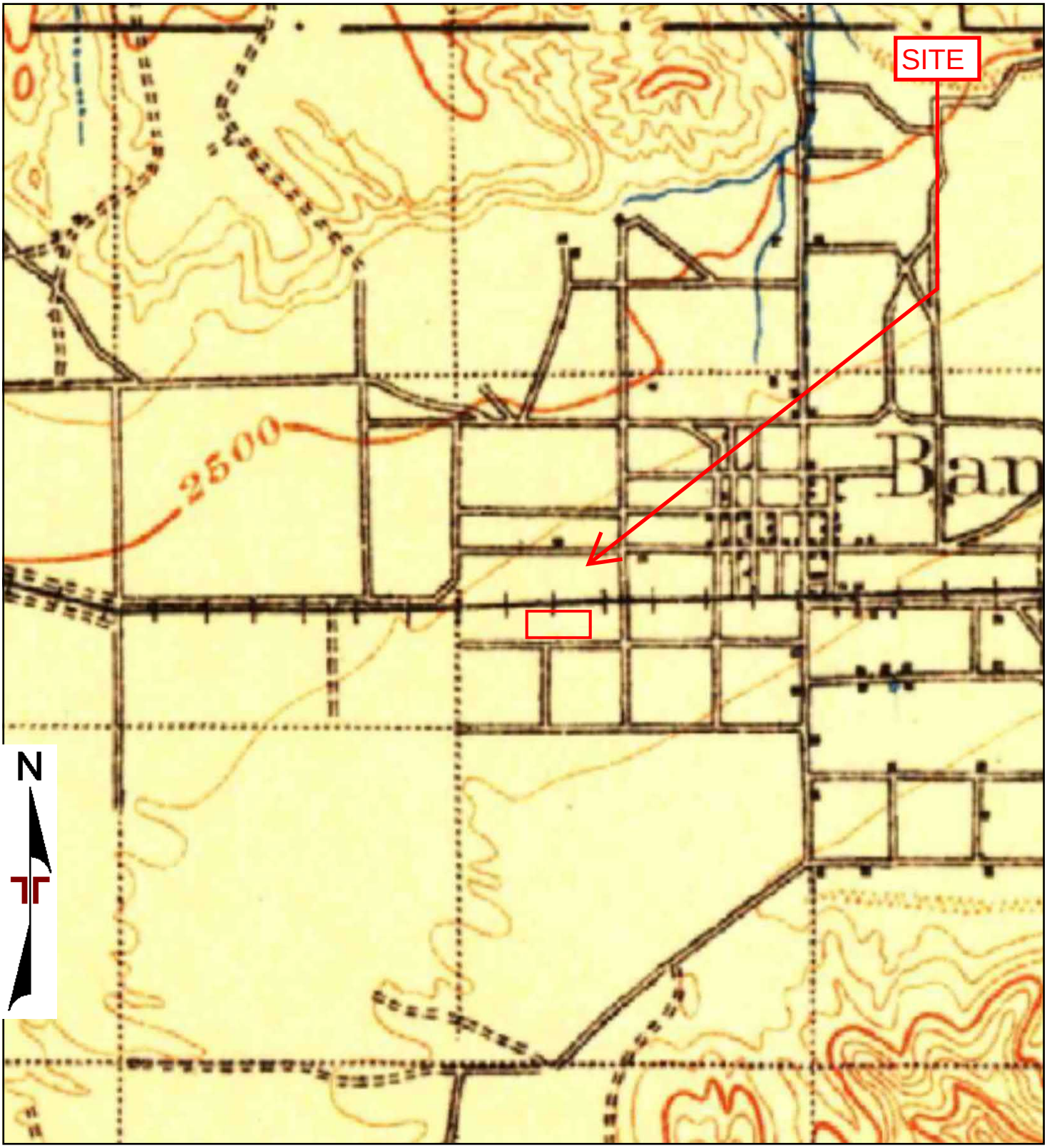
| | |
|---|---|
| Project Manager: JSV | Project No. LA227292 |
| Drawn by: SHC | Scale: As Shown |
| Checked by: JSV | File Name: NA |
| Approved by: JSV | Date: 1943 |

Terracon
1355 East Cooley Drive
Colton, California 92324

1943 TOPOGRAPHIC MAP

BANNING INDUSTRIAL
1219 AND 1431 WEST LINCOLN STREET
BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220

Appendix C




TP, San Jacinto, 1901, 30-minute

0 Miles 0.25 0.5 1 1.5

| | |
|---|---|
| Project Manager: JSV | Project No. LA227292 |
| Drawn by: SHC | Scale: As Shown |
| Checked by: JSV | File Name: NA |
| Approved by: JSV | Date: 1901 |

Terracon
1355 East Cooley Drive
Colton, California 92324

1901 TOPOGRAPHIC MAP

BANNING INDUSTRIAL
1219 AND 1431 WEST LINCOLN STREET
BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220

Appendix C

Banning Industrial

1219 and 1431 West Lincoln Street
Banning, Riverside County, California 92220

Inquiry Number: 7078092.8

August 05, 2022

# The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

# EDR Aerial Photo Decade Package

08/05/22

**Site Name:**

Banning Industrial
1431 and 1219 West Lincoln S
Banning, CA 92220
EDR Inquiry # 7078092.8

**Client Name:**

Terracon
23041 Avenida De La Carlota Ste 350
Laguna Hills, CA 92653
Contact: Sabrina Chantler

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

***Search Results:***

| Year | Scale | Details | Source |
|---|---|---|---|
| 2016 | 1"=500' | Flight Year: 2016 | USDA/NAIP |
| 2012 | 1"=500' | Flight Year: 2012 | USDA/NAIP |
| 2009 | 1"=500' | Flight Year: 2009 | USDA/NAIP |
| 2006 | 1"=500' | Flight Year: 2006 | USDA/NAIP |
| 2002 | 1"=500' | Acquisition Date: January 01, 2002 | USGS/DOQQ |
| 1996 | 1"=500' | Acquisition Date: September 30, 1996 | USGS/DOQQ |
| 1990 | 1"=500' | Flight Date: August 29, 1990 | USDA |
| 1989 | 1"=500' | Flight Date: August 14, 1989 | USDA |
| 1985 | 1"=500' | Flight Date: July 28, 1985 | USDA |
| 1975 | 1"=500' | Flight Date: August 01, 1975 | USGS |
| 1967 | 1"=500' | Flight Date: May 15, 1967 | USDA |
| 1961 | 1"=500' | Flight Date: June 04, 1961 | USDA |
| 1953 | 1"=500' | Flight Date: October 21, 1953 | USDA |
| 1949 | 1"=500' | Flight Date: June 01, 1949 | USDA |
| 1938 | 1"=500' | Flight Date: June 14, 1938 | USDA |

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| Project Manager: JSV | Project No: LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 2016 AERIAL PHOTOGRAPH<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 | Appendix<br>C |
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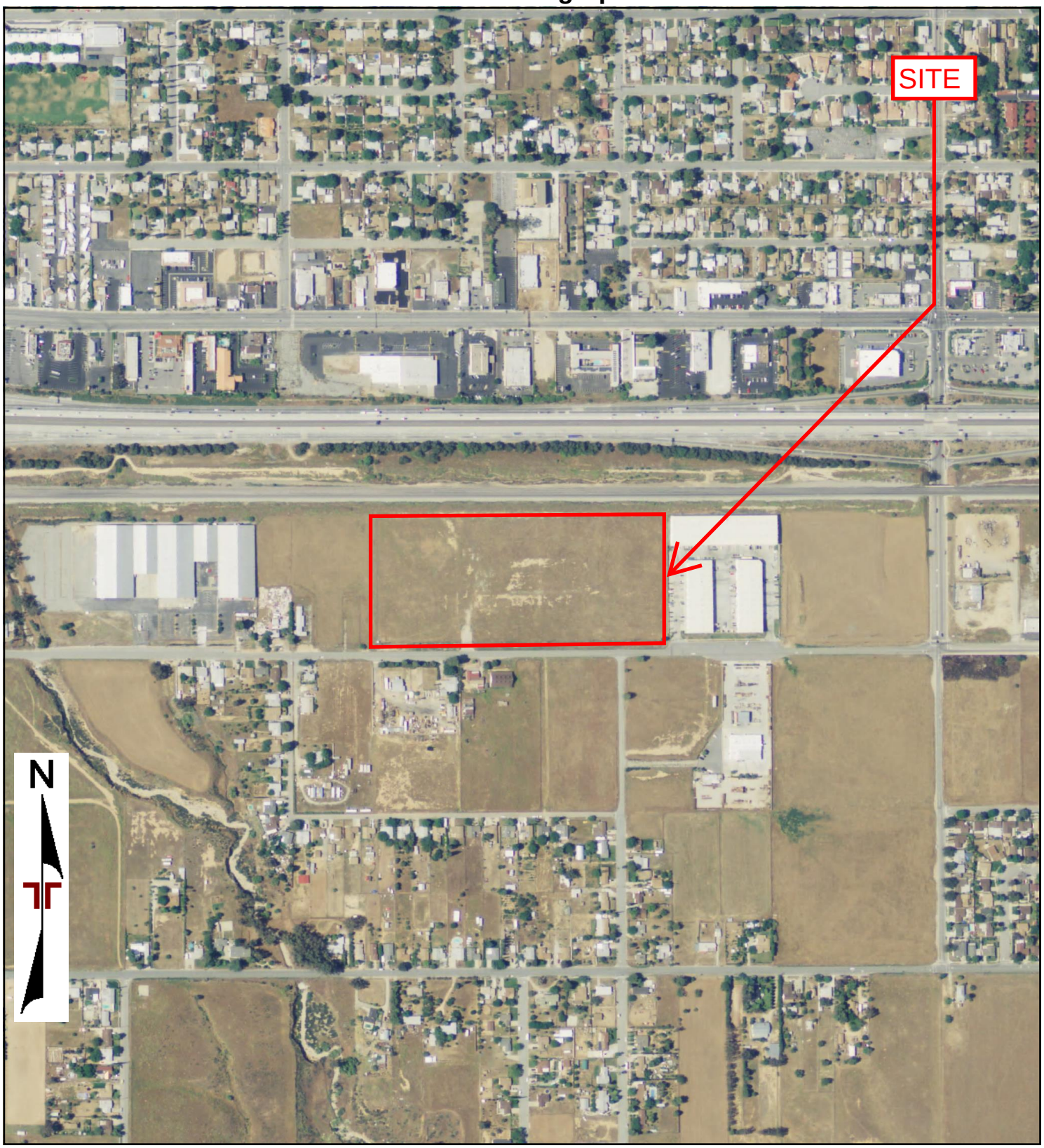
| Checked By: JSV | File Name: NA | | | |
| Approved By: JSV | Date: 2016 | | | |

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| Drawn By: SHC | Scale: As Shown | | | |
| Checked By: JSV | File Name: NA | | | |
| Approved By: JSV | Date: 2012 | | | |




0 Feet 500 1000 2000

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| Project Manager: JSV | Project No: LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 2009 AERIAL PHOTOGRAPH<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 | Appendix<br>C |
| Drawn By: SHC | Scale: As Shown | | | |
| Checked By: JSV | File Name: NA | | | |
| Approved By: JSV | Date: 2009 | | | |




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| Project Manager: JSV | Project No: LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 2006 AERIAL PHOTOGRAPH<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 | Appendix<br>C |
| Drawn By: SHC | Scale: As Shown | | | |
| Checked By: JSV | File Name: NA | | | |
| Approved By: JSV | Date: 2006 | | | |




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|---|---|---|---|---|
| Project Manager: JSV | Project No: LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 2002 AERIAL PHOTOGRAPH<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 | Appendix |
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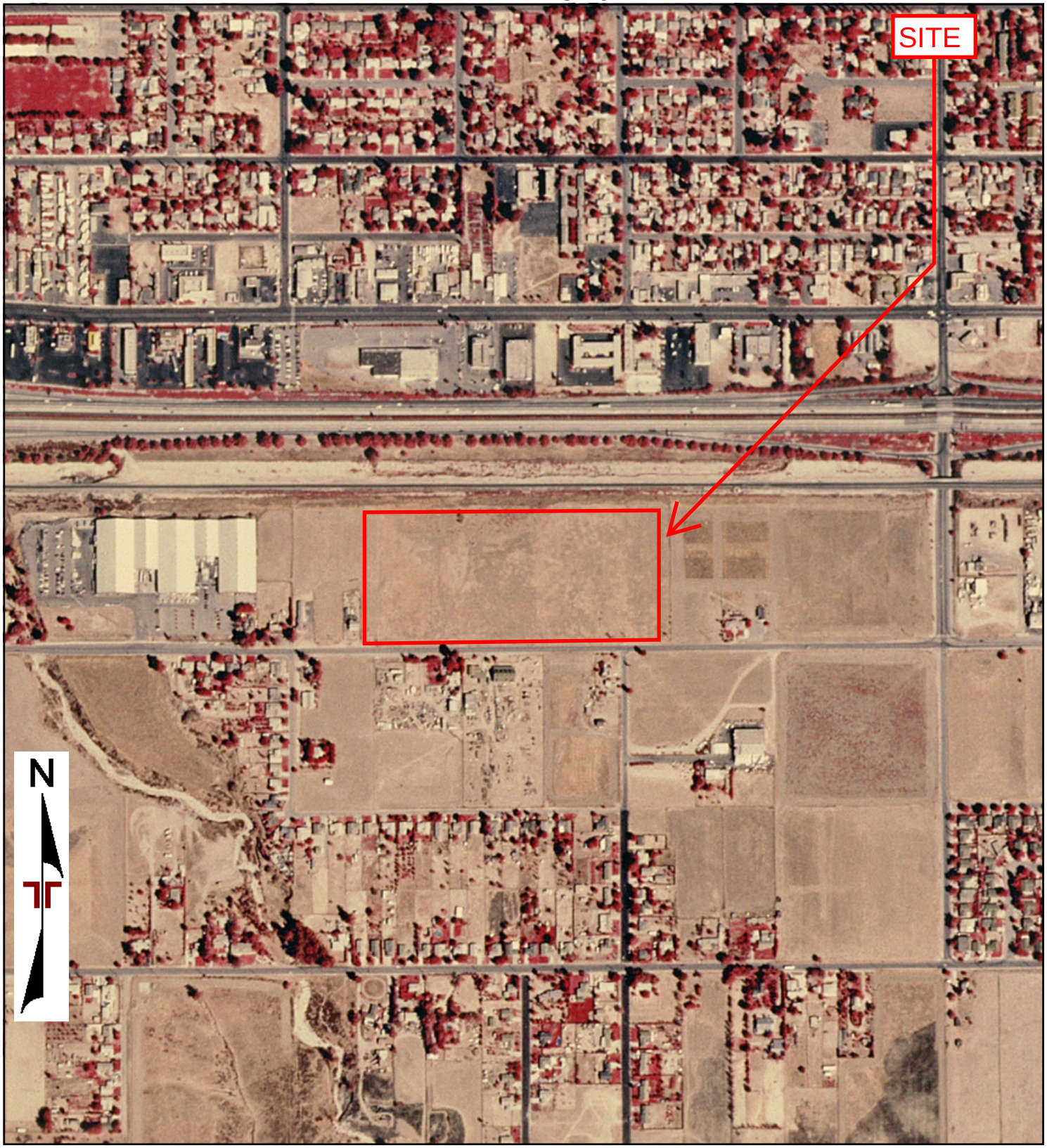


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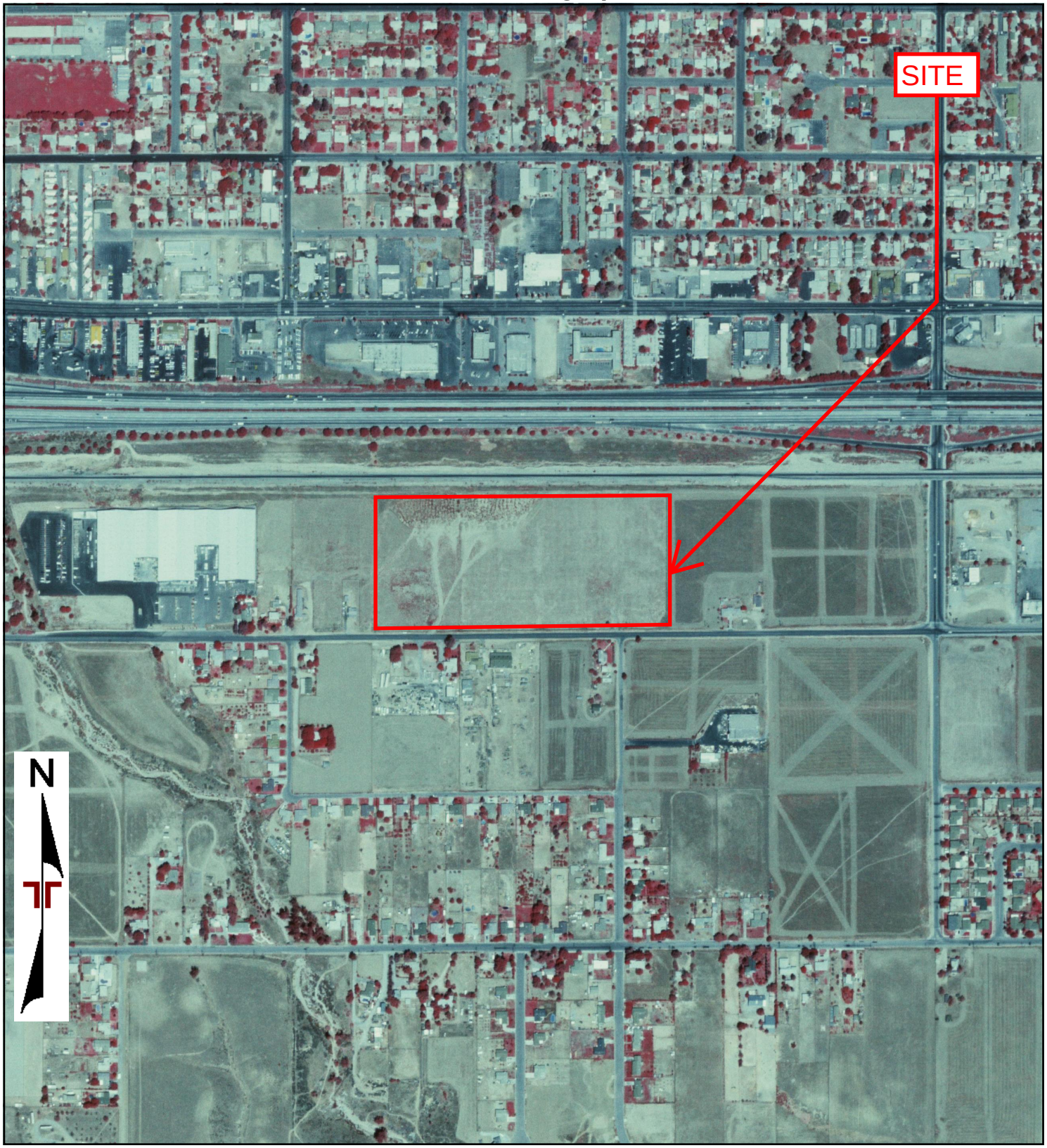
| Checked By: JSV | File Name: NA | | | |
| Approved By: JSV | Date: 1996 | | | |

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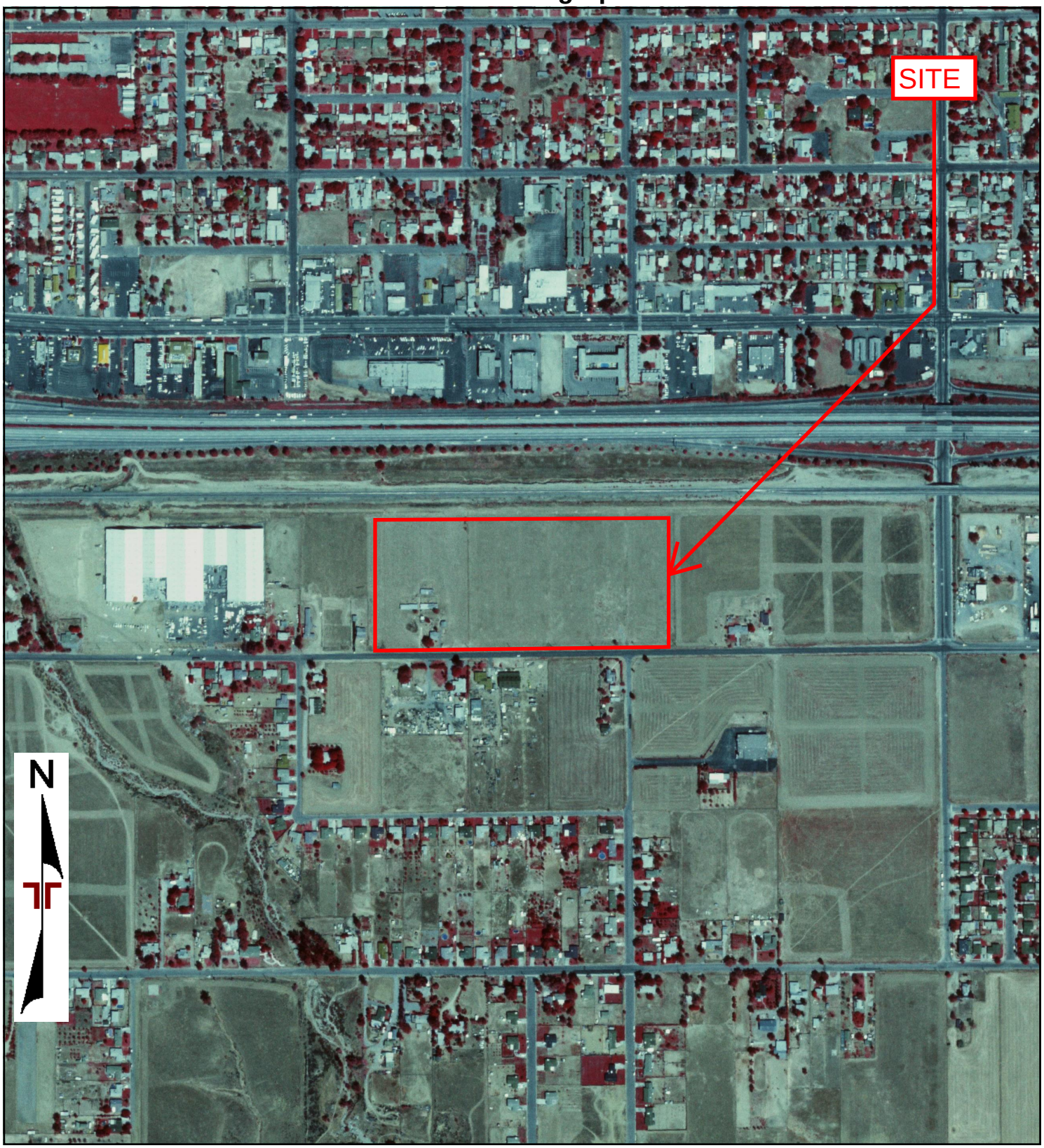
| Approved By: JSV | Date: 1990 | | | |

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| Project Manager: JSV | Project No: LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 1989 AERIAL PHOTOGRAPH<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 |
| Drawn By: SHC | Scale: As Shown | | Appendix<br>C |
| Checked By: JSV | File Name: NA | | |
| Approved By: JSV | Date: 1989 | | |




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| Drawn By: SHC | Scale: As Shown | | | |
| Checked By: JSV | File Name: NA | | | |
| Approved By: JSV | Date: 1985 | | | |




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| Project Manager: JSV | Project No: LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 1975 AERIAL PHOTOGRAPH<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 | Appendix<br>C |
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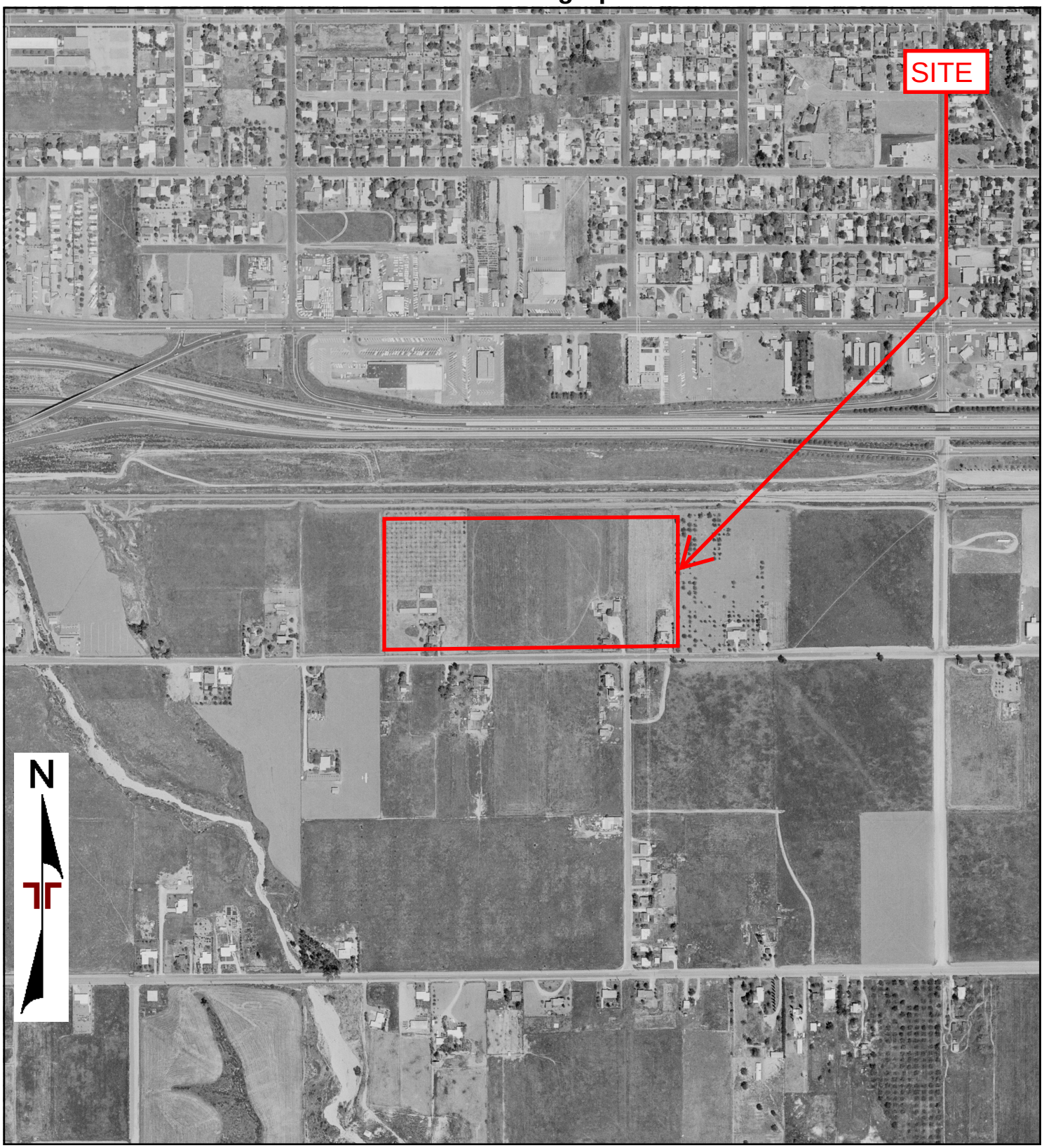
| Checked By: JSV | File Name: NA | | | |
| Approved By: JSV | Date: 1975 | | | |

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| Project Manager: JSV | Project No: LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 1967 AERIAL PHOTOGRAPH<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 | Appendix |
| Drawn By: SHC | Scale: As Shown | | | C |
| Checked By: JSV | File Name: NA | | | |
| Approved By: JSV | Date: 1967 | | | |




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| Project Manager: JSV | Project No: LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 1961 AERIAL PHOTOGRAPH<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 | Appendix |
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| Checked By: JSV | File Name: NA | | | |
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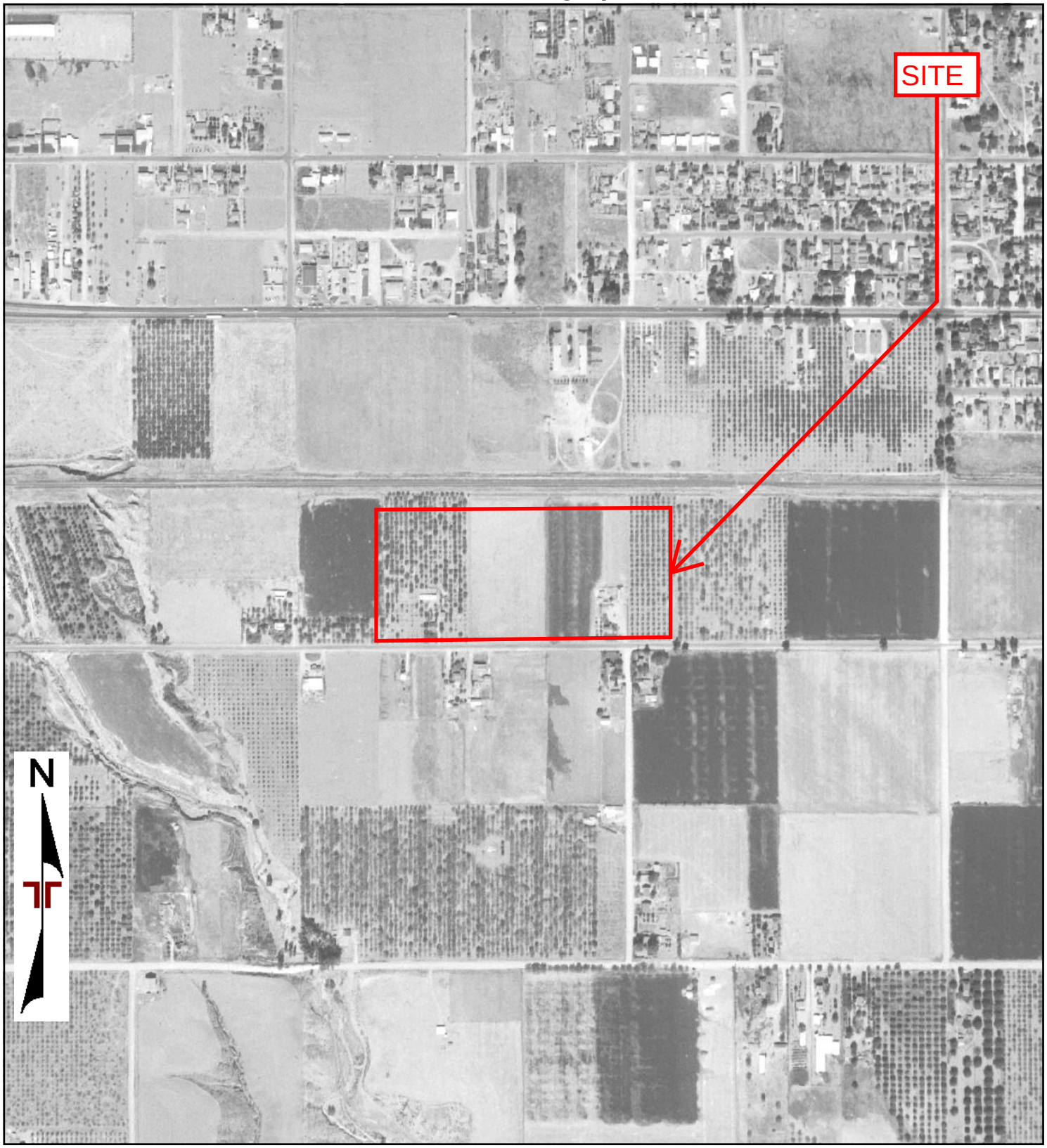


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| Project Manager: JSV | Project No: LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 1953 AERIAL PHOTOGRAPH<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 | Appendix<br>C |
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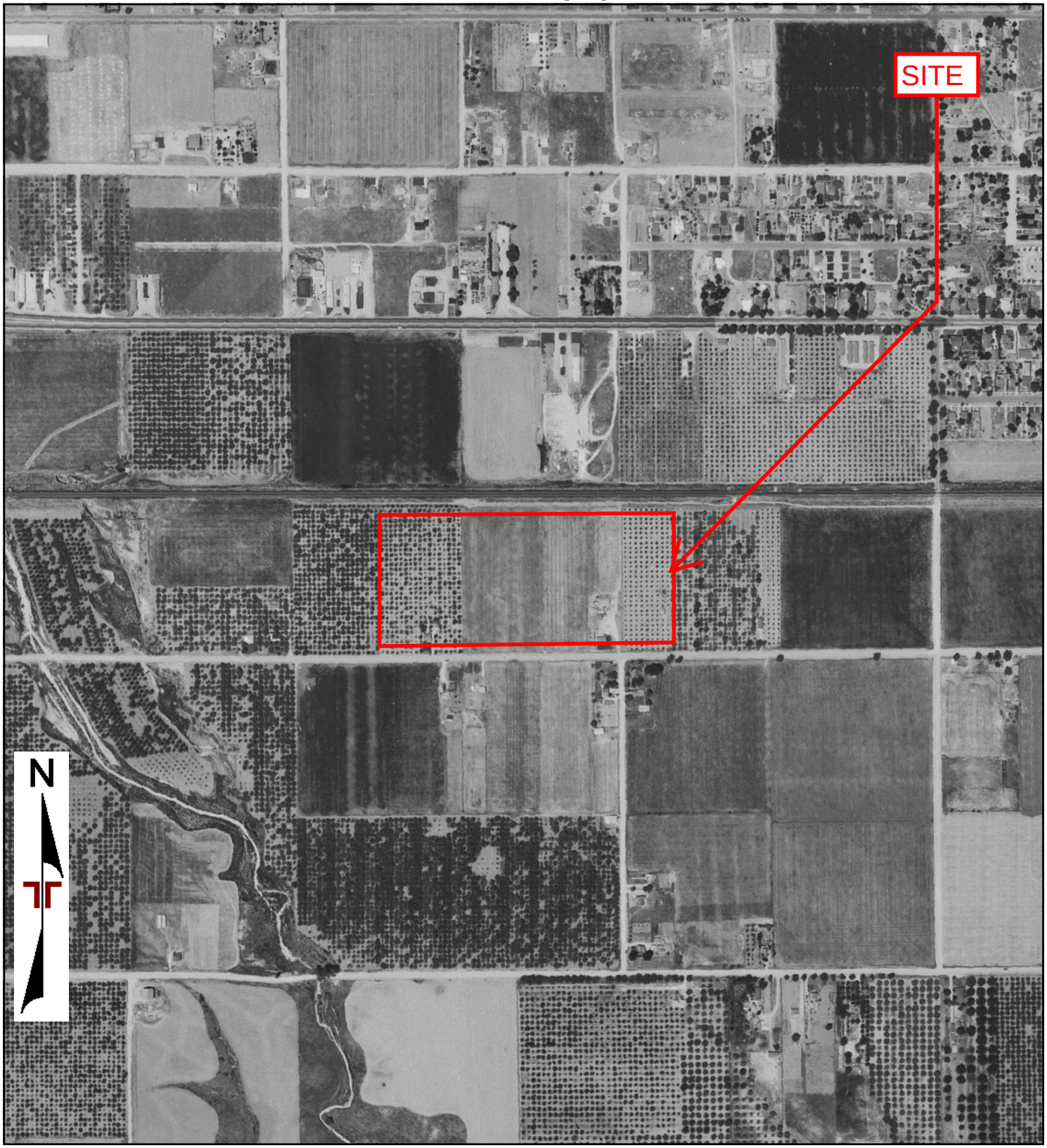
| Approved By: JSV | Date: 1953 | | | |

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| Project Manager: JSV | Project No: LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 1949 AERIAL PHOTOGRAPH<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 |
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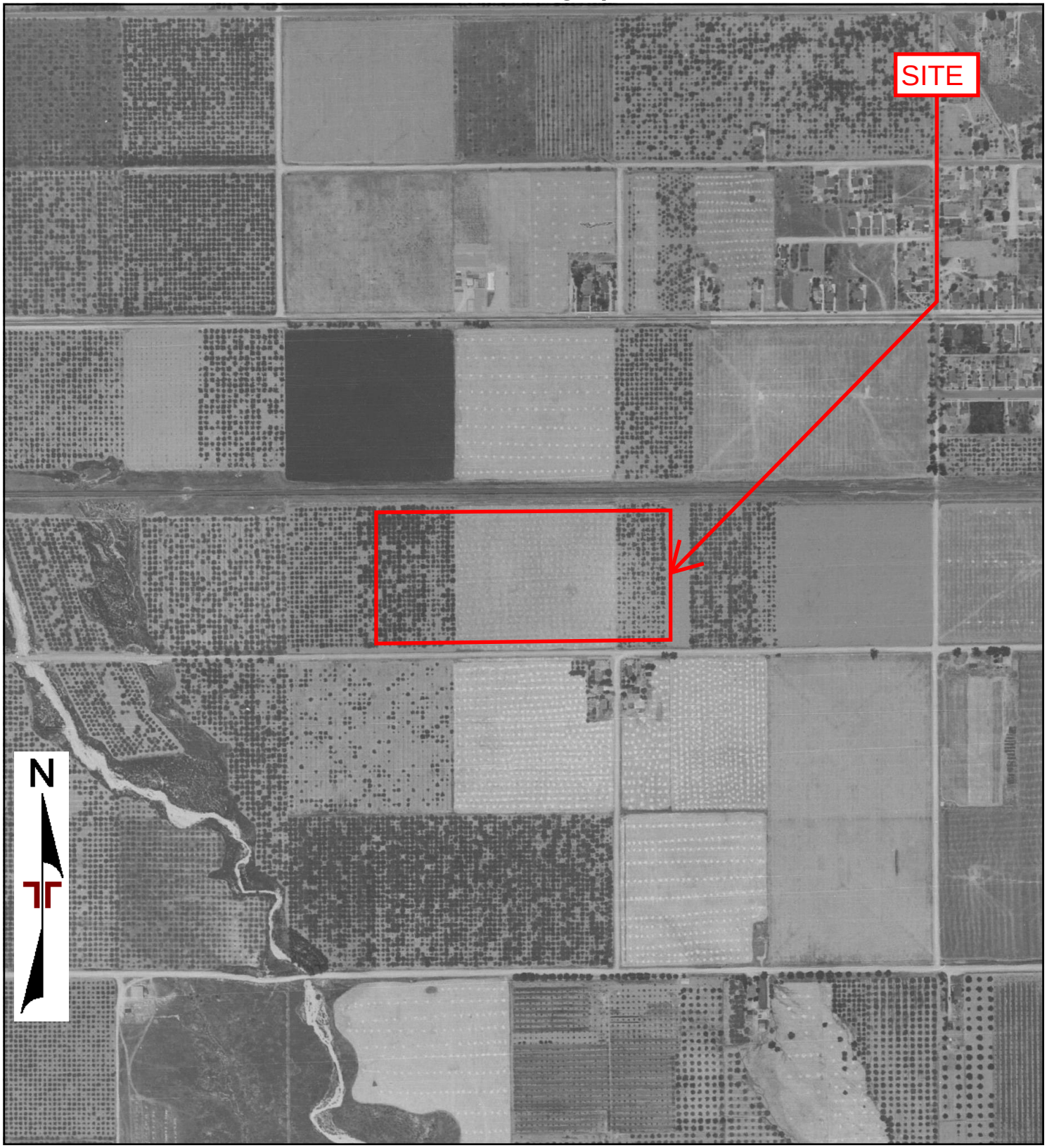


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| Project Manager: JSV | Project No: LA227292 | Terracon<br>1355 East Cooley Drive<br>Colton, California 92324 | 1938 AERIAL PHOTOGRAPH<br>BANNING INDUSTRIAL<br>1219 AND 1431 WEST LINCOLN STREET<br>BANNING, RIVERSIDE COUNTY, CALIFONRIA 92220 |
| Drawn By: SHC | Scale: As Shown | | Appendix C |
| Checked By: JSV | File Name: NA | | |
| Approved By: JSV | Date: 1938 | | |

Banning Industrial

1219 and 1431 West Lincoln Street
Banning, Riverside County, California 92220

Inquiry Number: 7078092.3

August 05, 2022

# Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

# Certified Sanborn® Map Report

08/05/22

**Site Name:**

Banning Industrial
1431 and 1219 West Lincoln St
Banning, CA 92220
EDR Inquiry # 7078092.3

**Client Name:**

Terracon
23041 Avenida De La Carlota Ste 350
Laguna Hills, CA 92653
Contact: Sabrina Chantler

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## *Certified Sanborn Results:*

**Certification #** B1D2-434F-BCEA

**PO #** NA

**Project** LA227292

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Sanborn® Library search results

Certification #: B1D2-434F-BCEA

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

*The Sanborn Library LLC Since 1866™*

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Banning Industrial

1219 and 1431 West Lincoln Street
Banning, Riverside County, California 92220

Inquiry Number: 7078092.5
August 08, 2022

# The EDR-City Directory Image Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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**Executive Summary**

**Findings**

**City Directory Images**

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with any questions or comments.

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# EXECUTIVE SUMMARY

## DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

## RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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## RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

| Year | Target Street | Cross Street | Source |
|---|---|---|---|
| 2017 | ☑ | ☑ | EDR Digital Archive |
| 2014 | ☑ | ☑ | EDR Digital Archive |
| 2010 | ☑ | ☑ | EDR Digital Archive |
| 2005 | ☑ | ☑ | EDR Digital Archive |
| 2000 | ☑ | ☑ | EDR Digital Archive |
| 1995 | ☑ | ☑ | EDR Digital Archive |
| 1992 | ☑ | ☑ | EDR Digital Archive |
| 1990 | ☑ | ☑ | Haines Criss-Cross Directory |
| 1985 | ☑ | ☑ | Haines Criss-Cross Directory |
| 1980 | ☑ | ☑ | Haines Criss-Cross Directory |
| 1976 | ☑ | ☑ | Haines Criss-Cross Directory |
| 1971 | ☑ | ☑ | Haines Criss-Cross Directory |

# FINDINGS

## TARGET PROPERTY STREET

1431 and 1219 West Lincoln Street
Banning, CA 92220

| *Year* | *CD Image* | *Source* |
|---|---|---|
| **W LINCOLN ST** | | |
| 2017 | pg A2 | EDR Digital Archive |
| 2014 | pg A6 | EDR Digital Archive |
| 2010 | pg A10 | EDR Digital Archive |
| 2005 | pg A14 | EDR Digital Archive |
| 2000 | pg A18 | EDR Digital Archive |
| 1995 | pg A22 | EDR Digital Archive |
| 1992 | pg A26 | EDR Digital Archive |
| 1990 | pg A29 | Haines Criss-Cross Directory |
| 1985 | pg A31 | Haines Criss-Cross Directory |
| 1980 | pg A33 | Haines Criss-Cross Directory |
| 1976 | pg A36 | Haines Criss-Cross Directory |
| 1971 | pg A39 | Haines Criss-Cross Directory |

# FINDINGS

## CROSS STREETS

| *Year* | *CD Image* | *Source* |
|---|---|---|
| **W RAMSEY ST** | | |
| 2017 | pg. A4 | EDR Digital Archive |
| 2014 | pg. A8 | EDR Digital Archive |
| 2010 | pg. A12 | EDR Digital Archive |
| 2005 | pg. A16 | EDR Digital Archive |
| 2000 | pg. A20 | EDR Digital Archive |
| 1995 | pg. A24 | EDR Digital Archive |
| 1992 | pg. A27 | EDR Digital Archive |
| 1990 | pg. A30 | Haines Criss-Cross Directory |
| 1985 | pg. A32 | Haines Criss-Cross Directory |
| 1980 | pg. A34 | Haines Criss-Cross Directory |
| 1980 | pg. A35 | Haines Criss-Cross Directory |
| 1976 | pg. A37 | Haines Criss-Cross Directory |
| 1976 | pg. A38 | Haines Criss-Cross Directory |
| 1971 | pg. A40 | Haines Criss-Cross Directory |

# City Directory Images

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | EDR Digital Archive |

# W LINCOLN ST 2017

| | |
|---|---|
| 101 | APOLLO MASTERS CORP |
| 201 | PROLINE |
| | PROLINE RACING |
| 268 | PRECISION MATERIAL HANDELING |
| 270 | KENNY STRICKLAND INC |
| 272 | KENNY STRICKLAND INC |
| 274 | BANNCO INC |
| | QST |
| 300 | HYDRO FOG INC |
| | NORTH AMERICAN VAN LINES |
| 679 | TERPOGOSYAN |
| 1143 | EXPRESS TIRE & AUTO REPAIR |
| | FASTENAL |
| | HARRISON AIR CONDITIONING |
| | HARRISON CONTRACTING INC |
| | HUNEYCUTT, JONATHAN |
| | I 10 COMMERCE CENTER SAN BERNARDINO |
| | PRECISION AUTO SERVICE |
| | SERVPRO |
| | TOMMS AUTO BODY |
| 1177 | ENTRADA DOOR IN |
| | EPD USA INC |
| | FIRST PLACE POWDER COATING |
| | I 10 COMMERCE CENTER SBDO LP |
| 1184 | TRENCH SHORING |
| | TRENCH SHORING COMPANY |
| 1380 | ROBLES, TONI |
| | SOUTHERN VALLEY WATERFEATURES |
| 1430 | DOOLITTLE, JEFFREY M |
| 1522 | EDWARDS, JOHN P |
| 1574 | SIBOLE CONSTRUCTION |
| 1626 | GARCIA, ELENA |
| 1640 | ALVAREZ, D |
| 1658 | HOUGH, LINDA A |
| 1676 | ORTIZ, JOSH |
| 1692 | RUIZ, DANIEL P |
| 1722 | VILLALOBOS, ARTHUR E |
| 1879 | LAWRENCE EQUIPMENT |
| 2005 | GAREY, ANNETTE G |
| 2008 | ORMONDE, TERESA |
| 2025 | BELTRAN, GLORIA P |
| 2028 | HORSMAN, AARON |
| 2044 | FUERTE, GEORGE |
| 2049 | CALL, ALLAN R |
| 2080 | MERAZ, SENON P |
| 2099 | GARCIA, SATURNINO S |
| 2102 | BARNES, MILDRED H |
| 2120 | COWDEN, MARC D |
| 2131 | BRADY, YAVETTE |
| 2148 | FISHER, TIMOTHY N |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | EDR Digital Archive |

## W LINCOLN ST 2017 (Cont'd)

| | |
|---|---|
| 2156 | VAZQUEZ, JOSE D |
| 2173 | BENZER, NAOMI |
| 2174 | VALDEVIESO, MELBA |
| 2216 | ORTIZ, ANGELITA O |
| 2266 | WRIGHT, RALPH P |
| 2290 | MCCUISTION, DUSTIN |
| 2387 | RIO STONE BUILDING MATERIALS |
| 2413 | MUNOZ, DULCE |
| 2435 | LBJ & ASSOCIATES INC |
| 2437 | BOWMAN, LARRY C |
| | LBJ & ASSOCIATES INC |
| 2539 | AMERICAN AIR SERVICE |
| | MCCOY, BEVERLY |
| 2565 | LUCAS, MARILYN D |
| 2571 | VALENCIA, KATHERINE E |
| 2585 | EVANS, LOUIS |
| 2611 | AVILA, ALBERT |
| 2671 | ALL AMERICAN TOWING |
| 2699 | MARTIN, ROBERT |
| 2705 | CLARK, JAMES M |
| 2721 | CHAMBERS, JOHN |
| 2723 | SANCHEZ, ANDRES T |
| 2909 | PENSKE TRUCK RENTAL |
| | RIGHTSPACE STORAGE |
| | STORE MORE SELF STORAGE |
| 2947 | J K HAIR BEAUTY SALON |
| | LABOR FINDERS |
| | R V CASUALS |
| 2981 | XENIA PRINTING & ADVERTISING |
| 2985 | VOICE |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | EDR Digital Archive |

# W RAMSEY ST 2017

| | |
|---|---|
| 1020 | CERTIFIED TIRE |
| 1034 | CAL2 TECHNOLOGY SERVICES |
| | MUHAMMAD S AKHTAR MD |
| | PRO CABAZON GARAGE DOOR REPAIR |
| | PROGARAGE DOOR REPAIR |
| | R D COLLINS MD INC |
| 1035 | B & J TAX ASSOCIATES |
| | BANNING FAMILY DENTISTRY |
| | GREATER HOPE FOUNDATION FOR CHILDREN |
| | LIBERTY TAX SERVICE |
| | MFI RECOVERY CENTER |
| | ROSAS CONSULTING CENTER |
| | UNIVERSITY HEIGHTS FAMILY DENTISTRY |
| 1125 | BANNING JEWELRY & LOANS |
| 1169 | JOWSHONE LEE MD |
| 1181 | CASA DE TAXES |
| 1231 | THAI FOOD HOUSE |
| 1240 | HACIENDA INN & SUITES |
| 1265 | BANNING REALTY |
| 1323 | DOLLAR GENERAL STORE |
| 1335 | JOHNNY RUSSOS ITALIAN RESTAURANT |
| | RUSSOS ITALIAN KITCHEN |
| 1374 | BANK OF AMERICA |
| | BANK OF AMERICA FINANCIAL CENTER |
| 1393 | EXPECTANT CUTS & STYLES |
| | SMOKE SHOP PLUS |
| 1420 | ONE STOP ALL CLOTHING |
| 1434 | ALL IN ONE CLOTHING |
| 1449 | EDDIES LIQUOR MARKET |
| 1481 | FAMILY DOLLAR |
| | REDBOX |
| 1484 | LITTLE CAESARS |
| | RW AUTHORIZED RETAIL STORES LLC |
| | SEARS |
| | SEARS APPLIANCE REPAIR |
| | SEARS GARAGE DOOR INSTALLATION & REP |
| 1486 | FALABELLA FURNITURE |
| 1498 | ONE HUNDRED PERCENT SMOKE SHOP |
| 1502 | INLAND EMPIRE HYDRO |
| 1508 | INSTITUTE OF DEVINE METAPHYSICAL RES |
| 1510 | BANNING MASSAGE |
| 1529 | DESERT PALMS CLEANERS & LAUNDRY |
| 1551 | MARGARITA MOTEL |
| 1585 | CALIFORNIA COLLISION CENTER |
| 1601 | DAD & SONS AUTOMOTIVE INC |
| 1630 | H & B TEST ONLY CENTER |
| 1690 | SUPER 8 |
| | SUPER 8 BANNING CA CASINO OUTLET MAL |
| 1700 | TRAVELODGE BANNING CASINO & OUTLET |
| 1735 | WELLS FARGO BANK |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | EDR Digital Archive |

## W RAMSEY ST 2017 (Cont'd)

| | |
|---|---|
| 1750 | SIZZLER |
| 1795 | PGF CARE INC |
| | PIONEER REALTY |
| 1801 | PARLETS JEWELRY & LOAN |
| 1820 | CERTIFIED TIRE & SERVICE CENTERS |
| 1860 | ADT SECURITY SERVICES |
| | PIZZA HUT |
| | PIZZA HUT WINGSTREET |
| 1877 | GEORGE, CHARLES O |
| | GEORGE, CORY |
| | HALLMARK, COREY |
| | HASTY, HORACE E |
| | LOPEZ, KRISTY |
| | MOTTO, LELLA M |
| | RODRIGUEZ, JESSICA |
| | SANCHEZ, GEORGE C |
| | TETI, STEVEN |
| 1901 | BAKER, DENNIS D |
| | DELATORRE, MONICA |
| | GARCIA, RITA |
| | MALDONADO, JORGE |
| | ORTEGA, CARLOS A |
| | RAMSEY BURGER |
| 1905 | PALACIOS, RUDOLPH N |
| 1930 | KFC |
| 1935 | WALL CHINESE CAFE |
| 1939 | CALIFORNIA BUDGET FINANCE |
| | QC HOLDINGS |
| 1941 | BANNING TOBACCO |
| 1943 | AGUILERA, LUIS |
| | AGUNDEZ, NOEMI |
| | ALVAREZ, HECTOR |
| | GOLDEN, WALTER C |
| | HARVARD, DANIEL |
| | MAYA, CARLOS |
| | MCDONALD, SANDRA |
| | MERCADO, SERGIO |
| | MILLARD, DIANNE |
| | MONTOYA, THOMAS L |
| | NATIVIDAD, JOSE D |
| | RAMSEY, ZABRIAN |
| | WHAT, CINDY |
| | WHITE, DENNIS |
| | WHITE, LYNLEA |
| 1964 | ALERT LOCKSMITH SERVICES |
| | DEL TACO |
| 1987 | AMERICAN LOCKSMITH & SECURITY |
| 2140 | MCDONALDS |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | EDR Digital Archive |

# W LINCOLN ST 2014

| | |
|---|---|
| 101 | APOLLO MASTERS CORP |
| 161 | K S D INC |
| 201 | PROLINE RACING |
| 268 | PRECISION MATERIAL HANDELING |
| 270 | KENNY STRICKLAND INC |
| 272 | KENNY STRICKLAND INC |
| 274 | BANNCO INC |
| | QST |
| 300 | BURGESS NORTH AMERICAN |
| | HYDRO FOG INC |
| | NORTH AMERICAN VAN LINES |
| 1143 | EXPRESS TIRE & AUTO REPAIR |
| | FASTENAL |
| | HARRISON AIR CONDITIONING |
| | HARRISON CONTRACTING INC |
| | I 10 COMMERCE CENTER SAN BERNARDINO |
| | PRECISION AUTO SERVICE |
| | PULTE HOMES |
| | RTI INDUSTRIES INC |
| | TOMMS AUTO BODY |
| 1177 | ENTRADA DOOR INC |
| | EPD USA INC |
| | FIRST PLACE POWDER COATING |
| 1184 | TRENCH SHORING |
| 1356 | OCCUPANT UNKNOWN, |
| 1380 | NARANJO, VICTOR |
| | SOUTHERN VALLEY WATERFEATURES |
| 1430 | DOOLITTLE, JEFFREY M |
| 1450 | OCCUPANT UNKNOWN, |
| 1522 | EDWARDS, JOHN P |
| | JOHN EDWARDS ENTERPRISES |
| 1574 | OCCUPANT UNKNOWN, |
| | SIBOLE CONSTRUCTION |
| 1626 | CRUZ, LORENZO |
| 1640 | ALVAREZ, D |
| 1658 | HOUGH, LINDA A |
| 1661 | CORTEZ, GLORIA |
| 1676 | ORTIZ, JOSH |
| 1692 | RUIZ, DANIEL P |
| 1706 | VAZQUEZ, MARTIN J |
| 1722 | VILLALOBOS, ARTHUR E |
| 1879 | LAWRENCE EQUIPMENT INC |
| 2005 | GAREY, ANNETTE |
| 2008 | ORMONDE, TERESA |
| 2025 | BELTRAN, TONY M |
| 2028 | OCCUPANT UNKNOWN, |
| 2044 | FUERTE, GEORGE |
| 2049 | MARTINEZ, JESUS C |
| 2062 | VELASQUEZ, SHELLY |
| 2071 | OCCUPANT UNKNOWN, |

## W LINCOLN ST 2014 (Cont'd)

| | |
| --- | --- |
| 2080 | MERAZ, SENON P |
| 2099 | GARCIA, SATURNINO S |
| 2102 | ALKIRE, JOANN M |
| 2120 | COWDEN, MARC D |
| 2131 | HIGGINS, LARRY L |
| 2148 | FISHER, TIMOTHY N |
| 2156 | VASQUEZ, JOSE D |
| 2157 | RIVERA, KETURAH R |
| 2173 | BENZER, N |
| 2216 | ORTIZ, ANGELITA O |
| 2266 | WRIGHT, RALPH P |
| 2290 | HATTABAUGH, DESTINY |
| 2343 | OCCUPANT UNKNOWN, |
| 2345 | OCCUPANT UNKNOWN, |
| 2365 | OCCUPANT UNKNOWN, |
| 2387 | RIO STONE BUILDING MATERIALS |
| 2413 | LOPEZ, CARLOS F |
| 2435 | LBJ & ASSOCIATES INC |
| | OCCUPANT UNKNOWN, |
| 2437 | EDWARDS, KIMBERLY |
| | LBJ & ASSOCIATES INC |
| 2539 | AMERICAN AIR SERVICE |
| | YLICKME, YOOUM A |
| 2565 | RAMIREZ-IXTA, L |
| 2571 | VIRGEN, JULIO A |
| 2585 | EVANS, LOUIS |
| 2611 | AVILA, ALBERT |
| 2637 | RITCHA, SHEILA |
| 2671 | ALL AMERICAN TOWING |
| 2699 | BALDERAMA, BELINDA |
| 2705 | CLARK, JAMES |
| 2721 | WILSON, CLAVEN |
| 2723 | SANCHEZ, ANDRES T |
| 2909 | PENSKE TRUCK RENTAL |
| | SUNSET SELF STORAGE |
| 2947 | J K HAIR BEAUTY SALON |
| | LABOR FINDERS |
| | PETERSON KAREN |
| | R V CASUALS |
| | TATE, SHASTA E |
| | WAW CONSULTANTS LLC |
| 2981 | GRAY, WILLIAM W |
| | IVASCHUK, OLEG |
| | XENIA PRINTING & ADVERTISING |
| 2985 | VOICE |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | EDR Digital Archive |

# W RAMSEY ST 2014

| | |
|---|---|
| 1025 | LITTLE & WALL INSURANCE SERVICES INC |
| 1034 | AKHTAR MUHAMMAD S MD |
| | AKHTAR, MUHAMMAD S |
| | CAL2 TECHNOLOGY SERVICES |
| | R D COLLINS MD INC |
| | TSAI WEICHE DR |
| | URGENT CARE |
| 1035 | BANNING FAMILY DENTISTRY |
| | MED SHOP BANNING |
| | ROSAS CONSULTING CENTER |
| | STATE FARM INSURANCE |
| | VALERIE MENEFEE STATE FARM INSURAN |
| 1118 | CHASE |
| | CHASE BANK |
| 1125 | BANNING JEWELRY & LOANS |
| 1169 | LEE JOWSHONE MD |
| 1170 | CROSSROAD CHRISTIAN CENTER |
| 1181 | CASA DE TAXES |
| 1231 | THAI FOOD HOUSE |
| 1240 | HACIENDA INN & SUITES |
| 1265 | BANNING REALTY |
| 1323 | DOLLAR GENERAL STORE |
| 1330 | COUNTY OF RIVERSIDE |
| 1335 | RUSSOS ITALIAN KITCHEN |
| 1393 | EXPECTANT CUTS & STYLES |
| | SMOKE SHOP PLUS |
| 1420 | ONE STOP ALL CLOTHING |
| 1434 | COBBWEB ANTIQUES |
| 1449 | EDDIES LIQUOR MARKET |
| 1481 | FAMILY DOLLAR |
| 1484 | LITTLE CAESARS |
| | RW AUTHORIZED RETAIL STORES LLC |
| 1496 | LITTLE CAESARS PIZZA |
| 1498 | ONE HUNDRED PERCENT SMOKE SHOP |
| 1502 | E CUT HAIR SALON |
| 1508 | INSTITUTE OF DEVINE METAPHYSICAL RES |
| 1529 | DESERT PALMS CLEANERS & LAUNDRY |
| 1551 | MARGARITA MOTEL |
| 1585 | CALIFORNIA COLLISION CENTER |
| 1601 | DINOSAUR TIRE & ROAD SERVICE |
| 1630 | A PLUS AUTO |
| | H & B TEST ONLY CENTER |
| 1690 | SUPER 8 |
| 1735 | WELLS FARGO BANK |
| 1750 | SIZZLER |
| 1795 | PIONEER REALTY |
| | TEN FREEWAY MOTORS INC |
| 1801 | PARLETS JEWELRY & LOAN |
| 1820 | CERTIFIED TIRE & SERVICE CTR |
| | GOODYEAR TIRE COMPANY |

| Target Street | Cross Street | Source |
|---|---|---|
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## W RAMSEY ST 2014 (Cont'd)

| | |
|---|---|
| 1820 | WINSTON TIRE COMPANY |
| 1860 | PIZZA HUT |
| 1877 | BEDWELL, DAVID |
| | BROWN, DEBORAH |
| | CARDENAS, MELISSA |
| | GEORGE, CHARLES O |
| | GIRON, ASHLEY |
| | RODRIGUEZ, NITA |
| 1888 | CARLS JR |
| 1893 | LARA, SANDRA M |
| | LOPEZ, FRANCISO |
| | OCCUPANT UNKNOWN, |
| 1901 | BAKER, DENNIS D |
| | DELATORRE, MONICA |
| | GARCIA, RITA |
| | RAMSEY BURGER |
| | RODRIGUEZ, DOROTHY |
| 1905 | STECKSTOR, SALLY R |
| 1930 | KFC |
| | KFC BANNING |
| 1935 | WALL CHINESE CAFE |
| 1939 | CALIFORNIA BUDGET FINANCE |
| | QC HOLDINGS |
| 1941 | BANNING TOBACCO NO 1 |
| 1943 | ALVAREZ, LUCITA J |
| | HARVARD, CINDY |
| | LEY-GUERRERO, TOMAS L |
| | MAYA, CARLOS |
| | MCDONALD, SANDRA |
| | MCMEEKIN, TYLER |
| | MONTOYA, THOMAS L |
| | MYERS, ROCKY |
| | PEREZ, MIKE |
| | RAMSEY, ZABRIAN |
| | SANCHEZ, GRICELDA |
| | SUCHILT, JOSE D |
| | VALDEZ, GINA S |
| | VILLEGAS, FELIPE |
| | WALLACE, GREGORY L |
| | WHITAKER, BETTY M |
| | WHITE, DENNIS |
| 1964 | DEL TACO |
| 1987 | CHELOS TACO SHOP |
| 2034 | CARROWS RESTAURANTS |
| 2140 | MCDONALDS |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | EDR Digital Archive |

# W LINCOLN ST 2010

| | |
|---|---|
| 101 | APOLLO MASTERS CORP |
| 161 | KSD INC |
| 274 | QST |
| 300 | BURGESS NORTH AMERICAN |
| | HYDRO FOG INC |
| 1143 | BELL, JEFFREY |
| | BELOVAC |
| | CALIFORNIA COLLISION CTR |
| | D & S BUILDERS |
| | DOWN LOW CUSTOMZ |
| | EXPRESS TIRES & AUTO REPAIR |
| | RTI INDUSTRIES |
| | SHOWCASE |
| | TOMMS AUTO BODY |
| 1177 | DICKS TIRE MART |
| | ENTRADA DOOR INC |
| | EPD WEARNES USA INC |
| | FIRST PLACE POWDER COATING |
| 1184 | TRENCH SHORING |
| 1380 | ROBLES PIPELINE LAYING INC |
| | RODRIGUEZ, MARIA |
| | SOUTHERN VALLEY WATERFEATURES |
| 1430 | OCCUPANT UNKNOWN, |
| 1450 | DOOLITTLE, JEFFREY M |
| 1522 | EDWARDS, JOHN P |
| 1574 | THOMAS, JAMES |
| 1617 | MARTINEZ, MARIA |
| 1626 | CRUZ, LORENZO |
| 1640 | LOVE, RAYMOND L |
| 1658 | LOERA, STEVEN M |
| 1661 | MEDLEY, PHILIP W |
| 1676 | MAYA, MARCO A |
| 1692 | RUIZ, DANIEL P |
| 1706 | OCCUPANT UNKNOWN, |
| 1722 | VILLALOBOS, ARTHUR E |
| 2005 | MUHAMMAD, KEVIN L |
| 2008 | WISEMAN, STEVEN D |
| 2025 | MORALES, ANTHONY R |
| 2028 | OCCUPANT UNKNOWN, |
| 2044 | DELAO, DONNA C |
| 2049 | MARTINEZ, JESUS |
| 2062 | BOWMAN, LARRY |
| 2071 | BANRASAVONG, BOONTHANH |
| 2080 | MERAZ, SENON P |
| 2082 | ZIBELL, MICHAEL A |
| 2099 | GARCIA, SATURNINO S |
| 2102 | ALKIRE, JOANN M |
| 2120 | COWDEN, MARC D |
| 2131 | FLORES, ERICA |
| 2148 | MALICKI, DOROTHY M |

## W LINCOLN ST 2010 (Cont'd)

2156 VASQUEZ, JOSE D
2157 MILLSAP, PAM S
2173 BENZAR, VALENTIN T
2174 CURRIER, ELIZA
2216 CARRANZA, JEREMY
2266 WRIGHT, RALPH P
2290 GRISHAM, MEGAN
2343 OCCUPANT UNKNOWN,
2345 OCCUPANT UNKNOWN,
2365 OCCUPANT UNKNOWN,
2387 RIO STONE
2413 LOPEZ, CARLOS F
2435 OCCUPANT UNKNOWN,
2437 BOWMAN, LARRY E
LBJ & ASSOC INC
2539 AMERICAN AIR SVC
HOWTONS
PIPPENGER, BRODIE L
2565 LEON, EVANGELINA
2571 SELWAY, JAMES M
2585 EVANS, LOIS
2611 AVILA, ALBERT
2637 RITCHA, RONALD W
2671 ALL AMERICAN TOWING
2699 REYNOLDS, HARLEY
2705 GARCIA, PHILIP
2721 CALKINS, AIMEE
2909 SUNSET SELF STORAGE
2947 CELEBRITY CARPETS
GREEN POWER RESOURCE MGMT
GREENOS ELECTRIC
J K HAIR BEAUTY SALON
R V CASUALS
2981 DREAM TEAM AUTOSOUND
GRAY, WILLIAM W
KOOL, KAT
LOCOS JUMP & PARTY SUPPLIES
2983 PRO INSULATION INC
2985 MOJO LURES
VOICE

| Target Street | Cross Street | Source |
|---|---|---|
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# W RAMSEY ST 2010

| | |
|---|---|
| 1025 | LITTLE & WALLS INSURANCE SVC |
| 1034 | AKHTAR, MUHAMMAD S |
| | R D COLLINS INC |
| 1035 | BANNING FAMILY DENTISTRY |
| | MEDICINE SHOPPE |
| | ROSAS CONSULTING CTR |
| | ROSAS PATIENT SVC |
| | STATE FARM INSURANCE |
| 1115 | ANCHOR INSURANCE CO |
| 1118 | CHASE |
| 1125 | BANNING JEWELRY & LOANS |
| 1169 | BANNING PEDIATRIC CLINIC |
| 1170 | CROSSROAD CHRISTIAN CTR |
| 1231 | THAI FOOD HOUSE |
| 1240 | HACIENDA INN |
| 1255 | ONE SHOT INSURANCE |
| 1265 | BANNING REALTY |
| 1335 | JOHNNY RUSSOS ITALIAN KITCHEN |
| 1374 | BANK OF AMERICA |
| 1393 | CHO, DONG H |
| | CHOS NURSERY |
| | H&R BLOCK |
| | ONE STOP NOTARY SVC |
| 1396 | EXPECTED CUTZZ STYLEZZ |
| 1449 | EDDIES LIQUOR MARKET |
| 1474 | ONE STOP ALL CLOTHING |
| 1486 | PEPES MARKET |
| 1496 | PALMERMO PIZZA |
| 1498 | NUMBER 1 SMOKE SHOP |
| 1502 | E CUT HAIR SALON |
| 1508 | INSTITUTEDEVINE METAPHYSICAL |
| 1551 | MARGARITA MOTEL |
| 1585 | RAMSEY STREET FORD |
| 1630 | STERLING AUTO |
| | UHAUL CO |
| 1672 | MI RANCHITO |
| 1690 | SUPER 8CASINOOUTLET MALL |
| 1700 | TRAVELODGECASINOOUTLET MALL |
| 1735 | WELLS FARGO BANK |
| 1750 | SIZZLER |
| 1795 | A PLUS AUTO |
| | PIONEER REALTY |
| 1801 | PARLETS JEWELRY & LOAN |
| 1820 | CERTIFIED TIRES & SVC CTR |
| 1860 | PIZZA HUT |
| 1865 | HALS HORSERADISH SHOP |
| 1877 | BARRETT, JAMES |
| | BROWN, DEBORAH |
| | CARDENAS, JOSEPH |
| | GODOY, VANESSA |

## W RAMSEY ST 2010 (Cont'd)

| | |
| --- | --- |
| 1877 | HOUSE, DEBBIE |
| | INGLETT, CANDACE |
| | RUTLEDGE, ABBEY |
| | WHITAKER, ROBERT R |
| | WHITTAKER, ROGER |
| 1888 | CARLS JR |
| 1893 | BROWN, LONNIE |
| | LARA, SANDRA M |
| | OCCUPANT UNKNOWN, |
| 1901 | CASTELLANOS, OCTAVIO C |
| | ENRIQUEZ, CARMEN |
| | RAMSEY BURGER |
| 1905 | STECKSTOR, SALLY R |
| 1909 | TRYON-STAPP, JEANNE |
| 1930 | KFC |
| 1935 | AUSTIN, DANIEL D |
| | WALL CHINESE CAFE |
| 1939 | CALIFORNIA BUDGET FINANCE |
| 1941 | BANNING TOBACCO |
| 1943 | ALVAREZ, HECTOR |
| | HURTADO, LISBET |
| | LEY, CARLOS |
| | LUNA, JUAN C |
| | MYA, ROSA |
| | MYERS, ROCKY |
| | NAVARRO, YAJAIRA |
| | RAMSEY, BURGER |
| | SANCHEZ, GRICELDA |
| | SILLAS, MARIA D |
| | SUCHILT, JOSE D |
| | VALDEZ, GINA S |
| | VILLEGAS, FELIPE |
| | WHITAKER, BETTY M |
| 1964 | DEL TACO |
| 1987 | CHELOS AUTHENTIC MEXICAN FOOD |
| 2034 | CARROWS RESTAURANT |
| 2140 | MC DONALDS |

| Target Street | Cross Street | Source |
|---|---|---|
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# W LINCOLN ST 2005

| | |
|---|---|
| 101 | APOLLO MASTERS CORP |
| 161 | K S D INC |
| 201 | PRO LINE |
| 266 | MK ROSS |
| 274 | BANNCO |
| | QST |
| 300 | BURGESS NORTH AMERICAN |
| 368 | WW CRAFTSMEN INC |
| 679 | SANTEE DAIRIES INC |
| 1103 | OCCUPANT UNKNOWN, |
| 1143 | OCCUPANT UNKNOWN, |
| 1177 | COLOR FAST INDUSTRIES |
| 1184 | ZIMMERMAN LARRY WOODWORKING |
| | ZIMMERMAN, LARRY W |
| 1380 | ROBLES, ROBERTO |
| 1430 | DOOLITTLE, JAMES M |
| | JAMES M & JUDY DOOLITTLE |
| 1450 | OCCUPANT UNKNOWN, |
| 1522 | EDWARDS, JOHN P |
| 1574 | OCCUPANT UNKNOWN, |
| 1589 | OCCUPANT UNKNOWN, |
| 1617 | SCANDRICK, DEBORAH |
| 1626 | OCCUPANT UNKNOWN, |
| 1640 | TERRY, FRANCES L |
| 1658 | HOGLE, RONALD A |
| 1661 | MEDLEY, PHILIP W |
| | PHILIP MEDLEY |
| 1676 | MAYA, MARCO A |
| 1692 | BUTRAKUNHA, UTHIT A |
| 1722 | VILLALOBOS, ARTHUR E |
| 1879 | MAGNA WINDOW CORP |
| | PACIFIC WINDOW CORP |
| 2005 | KALLAS, PETE |
| 2008 | MUHAMMAD, KEISHA |
| 2025 | MORALES, ANTHONY R |
| 2028 | HORSMAN, STEVE J |
| 2044 | RING, KATHERINE E |
| 2062 | ZIBELL, MICHAEL A |
| 2071 | BANRASAVONG, BOONTHANH |
| 2080 | MERAZ, SENON P |
| 2099 | GARCIA, SATURNINO S |
| 2102 | ALKIRE, JOANN M |
| 2120 | COWDEN, MARC D |
| 2148 | MALICKI, DOROTHY M |
| 2156 | VAZQUEZ, JOSE |
| 2157 | MILLSAP, PAM S |
| 2173 | SULLIVAN, DANIEL |
| 2174 | OCCUPANT UNKNOWN, |
| 2216 | CARRANZA, ALBERT F |
| 2266 | CANDELARIA, DAN T |

## W LINCOLN ST 2005 (Cont'd)

2290 WRIGHT, RALPH P
2387 RIO STONE BUILDING MATERIALS
2413 ORELLANA, AMBER
2435 WEGNER, DELBERT A
2437 BOWMAN, LARRY E
LBJ & ASSOCIATES INC
2539 PIPPENGER, BRODIE L
2565 J R C COMMISSARY PUSH CARS
RAMIREZ, ROBERTO
2585 EVANS, LOIS
2611 AVILA, ALBERT
2637 OCCUPANT UNKNOWN,
2671 ALL AMERICAN TOWING
2705 OCCUPANT UNKNOWN,
2721 CALKINS, AIMEE
2735 YANG, TOUA
2909 SUNSET SELF STORAGE
2947 BANNING UNIFIED SCHOOL DST
CELEBRITY CARPETS
EXTREME GARAGES INC
R V CASUALS
SCANDIA IMAGING
2981 EP II INC
FULL THROTTLE RACING
HEAVENLY BOUNCERS
RED BULL ENERGY DRINK
2983 BTS MOVING SYSTEMS
ELLIS, SHARRON A
UNI, VANLINES
UNITED VAN LINES
2985 MOJO LURE CO

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | EDR Digital Archive |

# W RAMSEY ST 2005

| | |
|---|---|
| 1025 | LITTLE & WALLS INSURANCE SERVICES IN |
| 1034 | GUSS ROBERT B MD |
| | GUSS, ROBERT B |
| | MOTOR VEHICLES CALIFORN DEPT |
| | MUHAMMAD S AKHTAR MD |
| | RD COLLINS MD INC |
| | URGENT CARE |
| | WEI CHE TSAI MD |
| 1035 | BANNING PODIATRY GROUP |
| | GREGORY KING DPM |
| | HAIR WE ARE |
| | HAIR WE ARE JENNIFER SIBOLE |
| | KING, GREGORY A |
| | RAZ, EDGE |
| 1072 | PRISM AUTO INSURANCE |
| 1115 | RAMSEY TOBACCO & GIFT STORE |
| 1125 | R & M BIKES |
| 1153 | BULLSEYE TATTOO |
| 1169 | JAW SHONE LEE MD |
| 1170 | CROSSROADS CHRISTIAN CENTER |
| 1181 | HELP U SELL PIONEER PROPERTIES |
| 1184 | SOCIAL SECURITY ADMN |
| 1231 | THAI FOOD HO |
| 1240 | HACIENDA INN |
| 1265 | BANNING REALTY |
| 1330 | LIVING HOPE CHRISTIAN CHURCH |
| | RIVERSIDE COUNTY MENTAL HEALTH |
| 1335 | JOHNNY RUSSOS ITALIAN KITCHEN |
| 1374 | BANK OF AMERICA NA |
| 1393 | CHOS NURSERY |
| | CLARK, K |
| | DC DESIGN |
| | H & R BLOCK |
| | UP AHEAD CUTS AND STYLES |
| 1434 | DECORATING ADDICT ANTIQUES |
| 1449 | TABEL EIDD |
| | WHEELS DEALS |
| 1481 | DICKS TIRE MART |
| 1484 | SUZIESWHIRLLED |
| 1496 | PALERMO PIZZA |
| 1502 | LOCATION |
| | TWO WILD ROSES |
| | TWO WILD ROSES ANTIQUES |
| 1551 | MARGARITA MOTEL |
| 1585 | RAMSEY STREET FORD |
| 1630 | A PLUS SMOG CENTER |
| | A1 AUTO & SMOG |
| 1675 | SERGIOS MEXICAN FOOD |
| | SERGIOS RESTAURANT |
| 1690 | SUPER 8 MOTEL |

## W RAMSEY ST 2005 (Cont'd)

| | |
| --- | --- |
| 1700 | BANNING TRAVELODGE |
| 1735 | VOLUNTEER CENTER OF RIVERSIDE |
| | WELLS FARGO BANK |
| | WESTERN TERRITORIAL SALVATION |
| 1750 | SIZZLER RESTAURANT |
| 1795 | MAIN STREET MORTGAGE |
| | PIONEER REALTY |
| 1820 | WINSTON TIRE CO |
| 1860 | PIZZA HUT |
| 1865 | HALS HORSERADISH SHOP |
| 1877 | BARRETT, ROBERT |
| | WHITAKER, ROY C |
| | WHITTAKER, ROGER |
| 1888 | MURPHYS STAR INC |
| 1891 | EAGLES CHECK CASHING |
| 1893 | GARCIA, LUCY |
| 1901 | RAMSEY BURGER |
| 1905 | STECKSTOR, SALLY R |
| 1930 | KENTUCKY FRIED CHICKEN |
| 1935 | AUSTIN, DANIEL D |
| | HILL, JAMI |
| | REID, SHAWNTE |
| | SANDS APARTMENTS |
| | WHITAKER, ROBERT R |
| 1939 | CALIFORNIA BUDGET FINANCE |
| 1941 | BANNING TOBACCO NO 1 |
| 1943 | BOJORQUEZ, RAUL |
| | GARCIALUNA, JUAN |
| | HOLMES, ANGELETTE |
| | JONES, S |
| | MEJIA, PEREZ M |
| | MONTOYA, THOMAS L |
| | RAMIREZ, MIGUEL A |
| | REYES, JUAN |
| | SANTOS, RODOLFO |
| | VILLEGAS, FELIPE |
| 1964 | DEL TACO INC |
| 1979 | CARRERAS TIRE SHOP |
| 1987 | CHELOS TACO SHOP |
| 2034 | CARROWS RESTAURANTS |
| | PRANDIUM |
| 2140 | MCDONALDS RESTAURANT |

| Target Street | Cross Street | Source |
|---|---|---|
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## W LINCOLN ST 2000

| | |
|---|---|
| 101 | APOLLO MASTERS CORPORATION |
| 161 | K S D INCORPORATED |
| | WOOD, LARRY V |
| 201 | PRO LINE |
| 251 | OCCUPANT UNKNOWN, |
| 272 | TRAVEL QUEST INCORPORATED |
| 300 | BURGESS NORTH AMERICAN |
| | NORTH AMERICAN VAN LINES INCORPORATED |
| 368 | W W CRAFTSMEN INCORPORATED |
| 504 | OCCUPANT UNKNOWN, |
| 679 | MADDOX DISTRIBUTORS |
| 1184 | ZIMMERMAN LARRY WOODWORKING |
| 1222 | OCCUPANT UNKNOWN, |
| 1430 | OCCUPANT UNKNOWN, |
| 1450 | OCCUPANT UNKNOWN, |
| 1541 | OCCUPANT UNKNOWN, |
| 1574 | OCCUPANT UNKNOWN, |
| 1589 | FARRIS, JAMES B |
| 1617 | OCCUPANT UNKNOWN, |
| 1640 | TERRY, FRANCES L |
| 1658 | HOGLE, RON |
| 1661 | WELCH, PERRY S |
| 1676 | OCCUPANT UNKNOWN, |
| 1692 | RING, G |
| 1706 | ARCHAMBAULT, M |
| 1722 | VILLALOBOS, ARTHUR E |
| 1777 | PACIFIC WINDOW |
| | SUNAIR WINDOW CORPORATION |
| 1879 | PACIFIC WINDOW CORPORATION |
| 1897 | OCCUPANT UNKNOWN, |
| 2005 | OCCUPANT UNKNOWN, |
| 2008 | BROWN, KENNETH |
| 2020 | OCCUPANT UNKNOWN, |
| 2028 | HORSMAN, STEVE |
| 2044 | RING, PAUL |
| 2062 | OCCUPANT UNKNOWN, |
| 2071 | FLOWERS, CRAIG |
| 2080 | MERAZ, RAYMOND |
| 2099 | GARCIA, STELLA |
| 2120 | COWDEN, MARC |
| 2148 | MALICKI, DOROTHY M |
| 2156 | OCCUPANT UNKNOWN, |
| 2157 | MILLSAP, DAVID |
| 2216 | CARRANZA, ALBERT F |
| 2266 | OCCUPANT UNKNOWN, |
| 2290 | HECK, STARK A |
| 2343 | OCCUPANT UNKNOWN, |
| 2345 | OCCUPANT UNKNOWN, |
| 2365 | OCCUPANT UNKNOWN, |
| 2387 | OCCUPANT UNKNOWN, |

## W LINCOLN ST 2000 (Cont'd)

2413 OCCUPANT UNKNOWN,
2435 WEGNER, MYRNA
2539 PALLMER, TAMMY
2565 WILSON, VICTOR J
2571 BROWNING, RALPH W
2585 EVANS, LOIS
2611 RIEGER, C W
2637 OCCUPANT UNKNOWN,
2671 ALL AMERICAN TOWING
OCCUPANT UNKNOWN,
2699 CONDIFF, KIM H
2705 OCCUPANT UNKNOWN,
2721 OCCUPANT UNKNOWN,
2723 SANCHEZ, ANDRES
2735 OCCUPANT UNKNOWN,
2909 SUNSET RV & SELF STORAGE
U HAUL COMPANY INDEPENDENT DEALERS
2947 BOB, R
2981 ESPERANZA HIGH SCHOOL
SPA FACTORY THE
TEEN MOTHERS
2985 ADVANCED AIR CONDITIONING & ELECTRIC
BANNING AUTOMOTIVE
SHEET METAL SHOP
VOICE

| Target Street | Cross Street | Source |
|---|---|---|
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## W RAMSEY ST 2000

| | |
|---|---|
| 1025 | BIRD INSURANCE |
| | BIRD REALTY |
| | CHEYENE FINANCIAL SERVICES |
| 1034 | AKHTAR MUHAMMAD S MD URGENT CARE |
| | CALIFORNIA STATE OF MOTOR VEHICLES DEPARTMENT |
| | SOLARTE DAVID MD |
| 1035 | AFTER HOURS |
| | BANNING FAMILY DENTISTRY |
| | BANNING PODIATRY GROUP |
| | DAVIS, RUTH A |
| | DAYTER, K L |
| | FLOWERS BLOSSOM FLORIST |
| | SYNERGY WELLNESS CENTER INCORPORATED |
| | THE MEDICINE SHOP |
| 1072 | WATSON PAINT & POOL STORE |
| 1115 | SELECT HOME LOANS |
| 1118 | WASHINGTON MUTUAL |
| 1125 | PASS MUSIC CENTER |
| 1153 | CHECK CASHING OF BANNING |
| | E G AUTO SALES |
| 1165 | OCCUPANT UNKNOWN, |
| 1181 | BANNING BEAUMONT CHRY VALLEY BD OF REALTORS MLS |
| 1184 | C & S NOTARY |
| | PASS TRAVEL SERVICE |
| | SMITH, WALTER |
| 1231 | LOS GALLOS RESTAURANT |
| 1240 | CHAO, TEH L |
| | HACIENDA INN |
| 1255 | YOUR INCOME TAX SERVICE |
| 1265 | BANNING REALTY |
| | OCCUPANT UNKNOWN, |
| 1330 | HEILIG MEYERS FURNITURE COMPANY |
| 1335 | SAN GORGONIO BEAUTY COLLEGE |
| 1391 | BLOCK H & R |
| 1393 | CHOS NURSERY |
| | OCCUPANT UNKNOWN, |
| | SHEAR PERFECTIONS |
| | WHOLESALE APPLIANCE |
| 1414 | OCCUPANT UNKNOWN, |
| 1420 | CHEERS MARKET & LIQUOR |
| 1433 | EDDIES LIQUOR MARKET |
| 1481 | DICKS TIRE MART |
| | TIRE PROS |
| 1496 | THAI HOUSE |
| | THAI HOUSE RESTAURANT |
| 1502 | GREYHOUND BUS LINES INCORPORATED |
| 1508 | INSTITUTE OF DEVINE METAPHYSICAL RESEARCH |
| 1529 | ERMISCH MY CLEANER |
| 1551 | MARGARITA MOTEL |
| 1585 | OCCUPANT UNKNOWN, |

## W RAMSEY ST 2000 (Cont'd)

1585 RAMSEY STREET FORD
1615 MIKES TEXACO
1630 A PLUS SMOG CENTER
OCCUPANT UNKNOWN,
1675 SERGIOS MEXICAN FOOD
1676 OCCUPANT UNKNOWN,
1690 SUPER 8 MOTEL
1700 TRAVELODGE
1735 NORTH COUNTY BANK
RIVERSIDE COUNTY OF PUB SCL SERVICES DEPARTMENT
SALVATION ARMY
1750 SIZZLER RESTAURANT
1785 OCCUPANT UNKNOWN,
1795 MASON, DIANE
PEOPLES, E
PIONEER REALTY
1796 OCCUPANT UNKNOWN,
1801 OCCUPANT UNKNOWN,
PARLETS JEWELRY & LOAN
1860 PIZZA HUT
1865 EMBSHOFF, IRENE W
1877 BEARD, JESSE
BURKE, JAMES A
HARTMAN, DEBORA D
1888 CARLS JR RESTAURANT
1891 BANNINGS CHECK CASHING
CHECKS CASHED MONEY ORDERS EAGLES NO 6
EAGLES NO 6 CHECK CASHING
FOOD STAMP ISSUING CENTER
MONEY GRAM SERVICE
1901 STAPP, BRUCE W
1905 OCCUPANT UNKNOWN,
1930 KENTUCKY FRIED CHICKEN
1935 DAHLQUIST, BONNIE
LOPEZ, RUDY
1941 BANNING TOBACCO
1943 DUARTE, OCTAVIO
FANTY, MARVINA F
MONTOYA, THOMAS L
OBOM, HARRY
1964 DEL TACO NO 39
1987 POTOSINOS MEXICAN FOOD
VARGAS, JOSE J
2034 CARROWS RESTAURANTS
2067 HARVEY QUICK LUBE
2140 MCDONALDS RESTAURANT

| Target Street | Cross Street | Source |
|---|---|---|
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# W LINCOLN ST 1995

| | |
|---|---|
| 161 | BANNING DRIVELINE SVC |
| | RIVERSIDE COUNTY SOCIAL SVC |
| 201 | BANNING RECYCLING |
| | MRP |
| | PRO LINE |
| 266 | V R |
| 272 | TRAVEL QUEST INC |
| 300 | BURGESS NORTH AMERICAN INC |
| 1184 | STRETCH PLASTICS |
| 1222 | MARCELL, SHERRY |
| 1380 | MARCIA SZECSY |
| | SZECSY, FERENC |
| 1430 | DOOLITTLE, JAMES M |
| 1476 | GODINEZOROZCO, PABLO |
| 1522 | RENTFROW, KENNETH |
| 1541 | OCCUPANT UNKNOWNN |
| 1574 | OCCUPANT UNKNOWNN |
| 1589 | ANNHOLT, LEANNA |
| 1626 | OCCUPANT UNKNOWNN |
| 1640 | TERRY, FRANCES L |
| 1658 | HOGLE, RON |
| 1661 | STRUB, E M |
| 1676 | BROWN, KENNETH |
| 1692 | RING, G |
| 1706 | COOK, W T |
| 1722 | OCCUPANT UNKNOWNN |
| 1777 | SUNAIR ALUMINUM CORP |
| 2005 | OCCUPANT UNKNOWNN |
| 2008 | OCCUPANT UNKNOWNN |
| 2025 | OCCUPANT UNKNOWNN |
| 2028 | HUFF, S |
| 2044 | SANDERSON, YVONNE |
| 2049 | OCCUPANT UNKNOWNN |
| 2062 | GREULICH, THERESA M |
| 2071 | OCCUPANT UNKNOWNN |
| 2080 | MACIAS, IRENE |
| 2099 | GARCIA, STELLA |
| 2102 | ALKIRE, JOANN M |
| 2120 | COWDEN, MARC |
| 2131 | HIGGINS, LARRY L |
| 2148 | MALICKI, DOROTHY M |
| 2156 | BYNUM, WILLIAM R |
| 2157 | MILLSAP, DAVID |
| 2171 | OCCUPANT UNKNOWNN |
| 2173 | THORNDIKE, DEB |
| 2216 | OCCUPANT UNKNOWNN |
| 2266 | CANDELARIA, DAN |
| 2290 | HARDING, MARTIN |
| 2345 | OLDS, RICHARD |
| 2365 | OLVERA, JOSEPH E |

## W LINCOLN ST 1995 (Cont'd)

| | |
| --- | --- |
| 2413 | MCCOMISKY, CONNIE |
| 2435 | WEGNER, MYRNA |
| 2513 | SANBORN, DON E |
| 2539 | OCCUPANT UNKNOWNN |
| 2565 | OCCUPANT UNKNOWNN |
| 2571 | BROWNING, RALPH W |
| 2611 | RIEGER, C W |
| 2637 | OCCUPANT UNKNOWNN |
| 2671 | OASIS LANDSCAPING INC |
| 2705 | OCCUPANT UNKNOWNN |
| 2723 | SANCHEZ, ANDRES |
| 2735 | OCCUPANT UNKNOWNN |
| 2909 | SUNSET RV & SELF STORAGE |
| | U HAUL CO |
| 2947 | DRIVETRAINS LTD |
| | ROCHELLE, ROBERT C |
| 2981 | PALMER CABLEVISION BANNING |
| | TEEN MOTHERS |
| 2985 | K & L HEATING & AIR COND |
| | SHEET METAL SHOP |

| Target Street | Cross Street | Source |
|---|---|---|
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## W RAMSEY ST 1995

| | |
|---|---|
| 1025 | BANNING HEIGHTS MUTUAL WATER |
| | BIRD REALTY |
| | THUNDERBIRD MORTGAGE CO |
| 1034 | MOTOR VEHICLE DEPT |
| | URGENT CARE |
| | WEICHE TSAI MD |
| 1035 | ALMOND BLOSSOM FLORIST |
| | BANNING FAMILY DENTISTRY |
| | BANNING PODIATRY GROUP |
| | BRIAN VAN DUSEN OD |
| | GEYER, ROBERT M |
| | HAREESH HAREESH DDS |
| | MEDICINE SHOP |
| | MEYERHOFF, GARY G |
| | PRIMARY EYE CARE VISION |
| | ROBERT M GEYER DPM |
| | ROSS FELDMAN MD |
| 1072 | WATSON PAINT & POOL STORE |
| 1115 | PAT SIVA |
| 1118 | AMERICAN SAVINGS BANK FA |
| 1125 | PASS CARPETS |
| | PASS MUSIC CTR |
| 1169 | BANNING PEDIATRICS |
| 1181 | BENEFICIAL INC |
| 1184 | C & S NOTARY |
| | JOB SERVICE |
| | PASS TRAVEL SVC |
| 1231 | EL OASIS RESTAURANT |
| 1240 | HACIENDA INN |
| | HAMMOCK, M |
| 1255 | YOUR INCOME TAX SVC |
| 1265 | BANNING REALTY |
| 1330 | MC MAHANS FURNITURE |
| 1335 | SAN GORGONIO BEAUTY COLLEGE |
| 1374 | BANK OF AMERICA |
| 1391 | H & R BLOCK INC |
| 1393 | CHOS NURSERY |
| | NAILS BY CAROLYN |
| | SHEAR PERFECTIONS |
| 1420 | CHEERS MARKET & LIQUOR |
| 1433 | EDDIS LIQUOR MARKET |
| 1449 | WHITWATER RV RENTALS |
| 1481 | DICKS TIRE MART |
| 1486 | BANNING APPLIANCE CO |
| 1498 | OCCUPANT UNKNOWNN |
| 1508 | PLAZA DRUG & GIFT STORE |
| 1529 | ERMISCH MY CLEANER |
| 1551 | MARGARITA MOTEL |
| 1585 | FUTURE FORD |
| 1615 | MIKES TEXACO |

## W RAMSEY ST 1995 (Cont'd)

| | |
| --- | --- |
| 1630 | BANNING TIRE DISTR |
| 1675 | SERGIOS MEXICAN FOOD |
| 1690 | SUPER 8 MOTEL |
| 1700 | TRAVELODGE |
| 1750 | SIZZLER |
| 1795 | PIONEER REALTY |
| 1801 | TOMS PIZZA |
| 1820 | GOODYEAR TIRE & RUBBER CO |
| 1860 | PIZZA HUT |
| 1865 | EMBSHOFF, HAROLD F |
| 1877 | AUBE, AL |
| | HAUK, MARSHA |
| | QUICK, CLYDE M |
| | STAPLES, EDNA M |
| 1888 | CARLS JR RESTAURANT |
| 1891 | EAGLES |
| 1901 | BAKER, DENNIS A |
| | TREJORODRIGUEZ, ROBERTO |
| 1903 | MCKANE, PEGGY |
| 1905 | MANZO, GILBERT J |
| 1930 | KFC |
| 1935 | MANCHESTER, JEREMY |
| 1941 | BOLAND CONSTRUCTION |
| | MC RAE REALTY |
| | SUN LAKES RESALES |
| 1943 | JONES, LINDA |
| | LANEHART, LEE H |
| | NOBLE, JEREMY |
| | RUNKEY, BARBARA |
| | TUNKEY, BARBARA |
| 1947 | OCCUPANT UNKNOWNN |
| 1964 | DEL TACO |
| 1979 | OCCUPANT UNKNOWNN |
| 1987 | FROSTY FEAST |
| 2033 | TRANSPORTATION DEPT |
| 2034 | CARROWS RESTAURANTS |
| 2140 | MC DONALDS |

| Target Street | Cross Street | Source |
|---|---|---|
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# W LINCOLN ST 1992

| | |
|---|---|
| 101 | APOLLO MASTERS CORP |
| 161 | RIVRSD CO SOCL SERV |
| 201 | BANNING RECYCLING |
| | PRO LINE |
| 266 | V R |
| 268 | DOOLEYS ETC INC |
| 272 | TRAVEL QUEST INC |
| 300 | BURGESS NORTH AMER |
| 679 | WEAVER, W P |
| 1184 | STRETCH PLASTICS |
| 1222 | BRUMMETT, SHERRY |
| 1380 | SZECSY, FERENC |
| 1522 | RENTFROW, KENNETH |
| 1692 | RING, G |
| 1706 | COOK, W T |
| 1777 | ALUMINITE SOUTH INC |
| | SUNAIR ALUMINUM |
| 2028 | HUFF, S |
| 2044 | RING, PAUL |
| 2071 | DACUNHA, ANTHONY |
| 2080 | MERAZ, RAYMOND |
| 2099 | GARCIA, STELLA |
| 2120 | MOORE, V C |
| 2131 | HIGGINS, LARRY L |
| 2148 | MALICKI, DOROTHY M |
| 2156 | BYNUM, JAMES F |
| 2157 | MILLSAP, DAVID |
| 2171 | THORNDIKE, DEB |
| 2345 | OLDS, RICHARD |
| 2435 | WEGNER, MYRNA |
| 2539 | DURKEE, CHARLES E |
| 2565 | WILSON, VICTOR J |
| 2637 | RIEGER, CHARLES |
| 2671 | OASIS LANDSCAPING |
| 2723 | SANCHEZ, ANDRES |
| 2909 | CONN, JAMES L |
| | SUNSET RV&SELF STRG |
| | U HAUL CO |
| 2947 | APPLIANCE FURNITURE |
| | DRIVETRAINS LTD |
| | SUNSET LIBATN&LNDRY |
| 2981 | ESPERANZA HI SC |
| | PALMER CABLEVISION |
| 2983 | AMER STAMPING&MFG |
| 2985 | K&L HEATING&AIR CND |
| | SHEET METAL SHOP |

| Target Street | Cross Street | Source |
|---|---|---|
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# W RAMSEY ST 1992

| | |
|---|---|
| 1025 | BANNING HTS MTL WTR |
| | BIRD INS |
| | CHEYENE FINANCIAL |
| | THUNDERBIRD ACQSTN |
| 1034 | AKHTAR MUHAMMAD MD |
| | CA ST MTR VHCLS INF |
| | GUSS ROBERT B MD |
| | NEMETH PAUL PHD |
| | TSAI WEI CHE MD |
| 1035 | BANNING PODIATRY |
| | HAREESH HAREESH DDS |
| | MEDICINE SHOP THE |
| | VANDUSEN BRIAN OD |
| 1072 | WATSON PNT&PL STORE |
| 1115 | BUCHANAN JOHN RLTR |
| | MAYFAIR DEVELOPMENT |
| | SIVA PAT REALTOR |
| 1118 | AMER SAVINGS BANK |
| 1125 | PASS MUSIC CENTER |
| 1153 | BANNING FLORIST |
| 1169 | LEE JOW SHONE MD |
| 1172 | GATEWAY WESTERN BNK |
| 1181 | B N F C L CA INC |
| | BENEFCL CA INC |
| 1184 | GREAT AMERICAN RLTY |
| | PASS TRAVEL SERVICE |
| | PHILLIPS FRANK ATTY |
| | RICHARD RONALD LAW |
| | U S TAX&BOOKKEEPING |
| 1231 | EL OASIS |
| 1240 | HACIENDA INN |
| 1255 | CAMPESINOS UNIDOS |
| 1265 | BANNING REALTY |
| 1330 | MC MAHANS FURN STRS |
| 1335 | SAN GORGONIO CLG |
| 1374 | BANK AM EXISTING LN |
| 1391 | BLOCK H&R |
| 1393 | CHOS NURSERY |
| | NAILS BY CAROLYN |
| | SHEAR PERFECTIONS |
| 1420 | CHEERS MKT&LIQUOR |
| 1434 | BANNING CTY BILLING |
| 1481 | DICKS TIRE MART |
| 1496 | RESTAURANTS EL G |
| 1498 | YOUNGS HAIR STYLING |
| 1502 | O K VIDEO |
| 1508 | PLAZA DRUG&GIFT ST |
| 1529 | ERMISCH MY CLEANER |
| 1551 | MARGARITA MOTEL |
| 1585 | FUTURE FORD |

## W RAMSEY ST 1992 (Cont'd)

| | |
| --- | --- |
| 1615 | MIKES TEXACO |
| 1630 | BANNING TIRE DISTB |
| 1675 | SERGIOS MEXICAN FD |
| 1690 | SUPER 8 MOTEL |
| 1700 | TRAVEL LODGE |
| 1750 | SIZZLER RESTAURANT |
| 1795 | CENTURY 21 PIONEER |
| 1801 | TOMS PIZZA |
| 1820 | BLOOME MARK C CO |
| 1860 | PIZZA HUT |
| 1865 | EMBSHOFF, HAROLD F |
| 1877 | BAKER, RONALD |
| | MILLER, JAMES |
| | QUICK, CLYDE M |
| | SAUBEL, VINCENT |
| | STAPLES, EDNA M |
| 1888 | CARLS JR RESTAURANT |
| 1891 | CHECKS CASHED NO 6 |
| 1901 | RESTAURANT UNICRNIO |
| | RUBIO, MORALES E |
| | TREJORODRIGUEZ, ROBERTO |
| 1903 | PHIPPS, DONNA K |
| 1930 | KENTUCKY FRIED CHKN |
| 1935 | FLORIAN, DALE |
| | KELLY, K P |
| | WAGNER, HENRY |
| 1941 | BOLAND CONSTRUCTION |
| | MC RAE REALTY |
| 1964 | DEL TACO NO 39 |
| 1987 | FROSTY FEAST |
| 2033 | CA ST TRANS MNT STN |
| 2034 | CARROWS RESTAURANTS |
| 2140 | MCDONALDS RSTRNT |

| Target Street | Cross Street | Source |
|---|---|---|
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# W LINCOLN ST 1990



LINCOLN W 92220
BANNING

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Haines Criss-Cross Directory |

# W RAMSEY ST 1990



| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

# W LINCOLN ST 1985



LINCOLN W 92220
BANNING

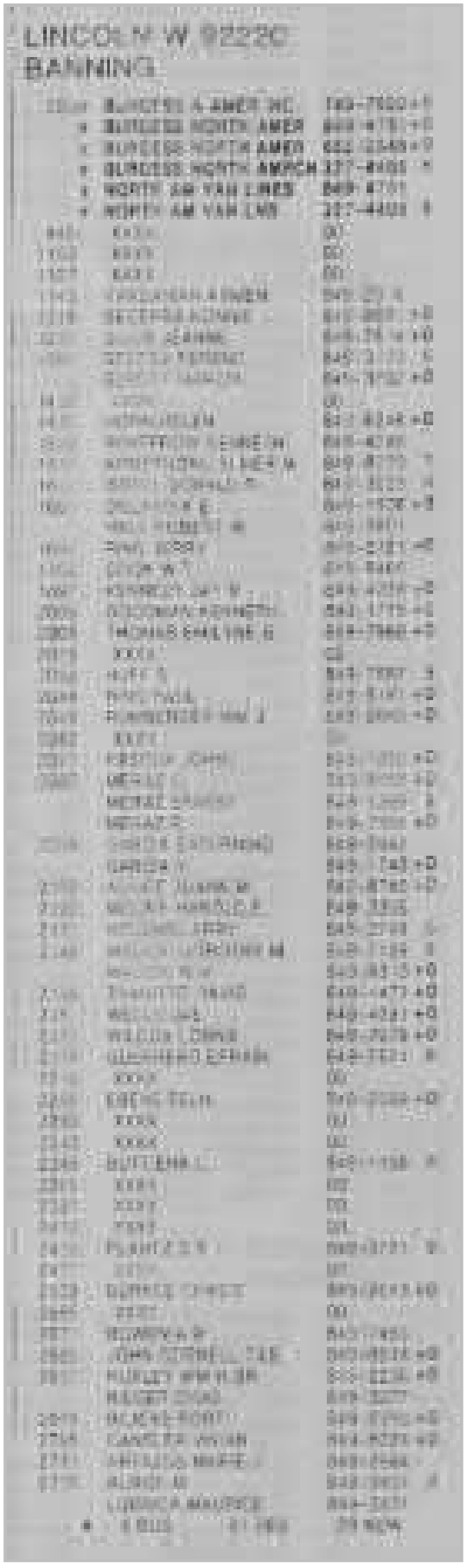
| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Haines Criss-Cross Directory |

# W RAMSEY ST 1985



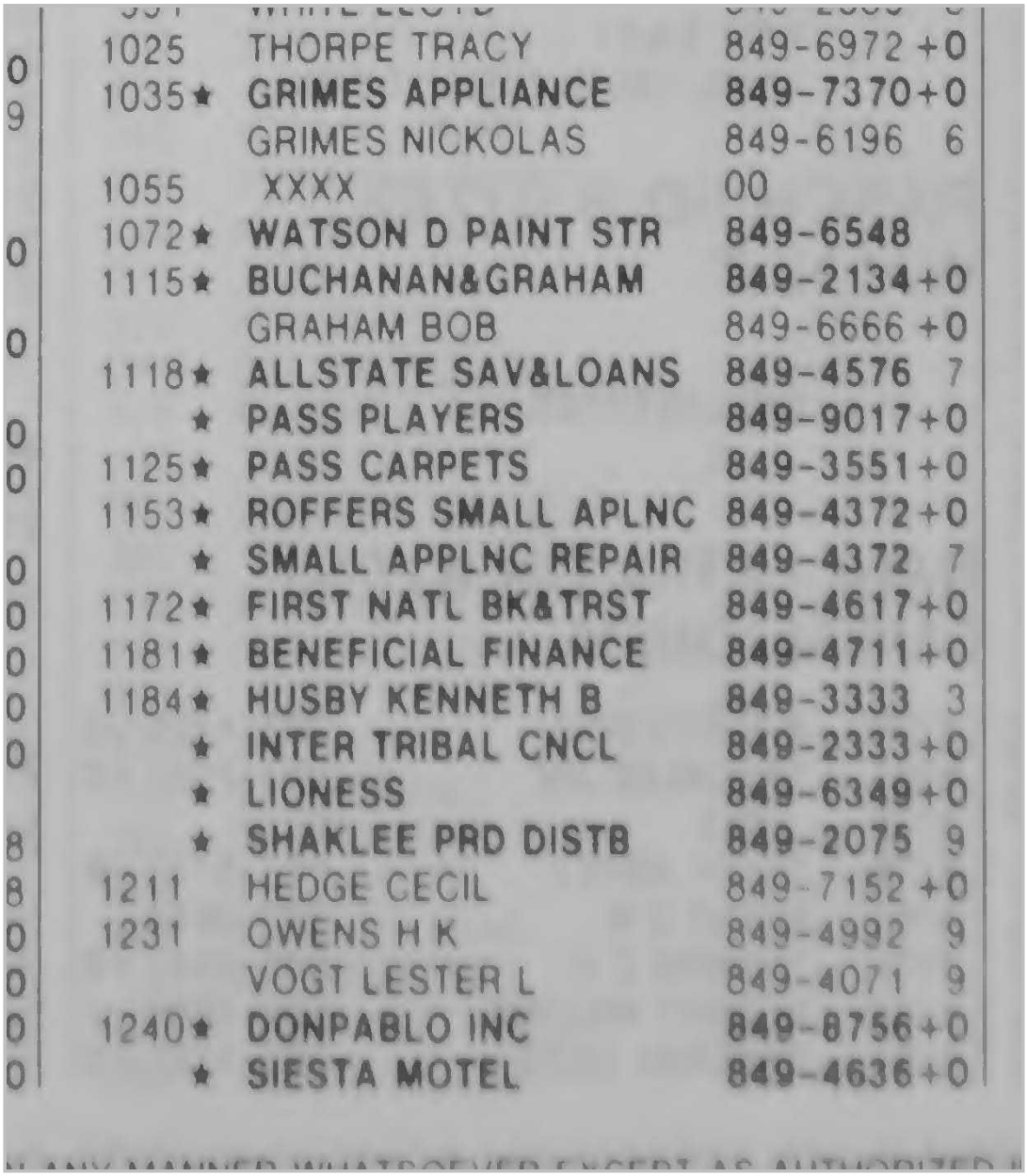
| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

# W LINCOLN ST 1980



| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Haines Criss-Cross Directory |

## W RAMSEY ST 1980



| | | | |
|---|---|---|---|
| | 1025 | THORPE TRACY | 849-6972 +0 |
| 0 | 1035★ | GRIMES APPLIANCE | 849-7370+0 |
| 9 | | GRIMES NICKOLAS | 849-6196 6 |
| | 1055 | XXXX | 00 |
| | 1072★ | WATSON D PAINT STR | 849-6548 |
| 0 | 1115★ | BUCHANAN&GRAHAM | 849-2134+0 |
| | | GRAHAM BOB | 849-6666 +0 |
| 0 | 1118★ | ALLSTATE SAV&LOANS | 849-4576 7 |
| | ★ | PASS PLAYERS | 849-9017+0 |
| 0 | 1125★ | PASS CARPETS | 849-3551+0 |
| 0 | 1153★ | ROFFERS SMALL APLNC | 849-4372+0 |
| | ★ | SMALL APPLNC REPAIR | 849-4372 7 |
| 0 | 1172★ | FIRST NATL BK&TRST | 849-4617+0 |
| 0 | 1181★ | BENEFICIAL FINANCE | 849-4711+0 |
| 0 | 1184★ | HUSBY KENNETH B | 849-3333 3 |
| 0 | ★ | INTER TRIBAL CNCL | 849-2333+0 |
| | ★ | LIONESS | 849-6349+0 |
| 8 | ★ | SHAKLEE PRD DISTB | 849-2075 9 |
| 8 | 1211 | HEDGE CECIL | 849-7152 +0 |
| 0 | 1231 | OWENS H K | 849-4992 9 |
| 0 | | VOGT LESTER L | 849-4071 9 |
| 0 | 1240★ | DONPABLO INC | 849-8756+0 |
| 0 | ★ | SIESTA MOTEL | 849-4636+0 |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Haines Criss-Cross Directory |

# W RAMSEY ST 1980



| | | | |
|---|---|---|---|
| | RAMSEY W | | 92220 CON* |
| D | 1255 | XXXX | 00 |
| D | 1265* | ROBERGE W F INC | 849-4581+0 |
| | 1309* | EDGEHILL LANES | 849-4645+0 |
| D | 1330* | MCMAHANS FURNITURE | 849-4605+0 |
| D | 1335* | SAN GORGONIO BTY CL | 849-4614+0 |
| D | 1353A* | SAN GORGONIO SCHL | 849-4836+0 |
| D | 1363* | FRONTIER BUILDERS | 849-6404+0 |
| | 1374* | BANK OF AMER NT&SA | 849-4671+0 |
| 5 | * | BANK OF AMER NT&SA | 849-6761+0 |
| D | 1393* | BLOCK H&R CO | 849-8301+0 |
| 7 | * | CHOS NURSERY | 849-3984+0 |
| 9 | * | H&R BLOCK CO | 849-8301+0 |
| D | 1433* | BIG A AUTO PARTS | 849-4559+0 |
| | * | CAR PARTS INC | 849-4559 5 |
| 3 | 1439 | XXXX | 00 |
| D | 1449* | ROBERTSON LEWIS&ASC | 849-4541+0 |
| 3 | 1451 | XXXX | 00 |
| 5 | 1474* | BANNING PLAZA DRUGS | 849-4686 5 |
| D | * | PLAZA DRUGS | 849-4686+0 |
| | 1481* | PASS CHRYSLR PLYMTH | 849-4701+0 |
| D | 1486* | AMER AIR SYSTEMS | 849-2945+0 |
| 9 | * | ENTERPRISE THE | 849-4531+0 |
| | * | RIVERSD ENTERPRISE | 849-4531+0 |
| D | 1496* | BANNING PLAZA CARPT | 849-1221 9 |
| | 1498 | XXXX | 00 |
| | 1502* | BANNING JEWELERS | 849-6185+0 |
| D | 1508 | XXXX | 00 |
| | 1510* | TOUCH OF VENUS | 849-1688+0 |
| 9 | 1529* | ERMISCH MY CLEANER | 849-2141 |
| D | 1551* | MARGARITA MOTEL | 849-3019 5 |
| D | 1585* | BANNING FORD | 849-4555+0 |
| D | 1615* | GOWS TEXACO SERV | 849-7449+0 |
| D | * | GOWS TEXACO SERV | 849-7570+0 |
| D | * | NATIONAL AUTO CLUB | 849-7570+0 |
| 7 | 1630 | XXXX | 00 |
| D | 1651* | STAGE STOP AMUSEMNT | 849-7591+0 |
| 7 | 1675* | SERGIOS MEXICAN FD | 849-1191+0 |
| D | 1795 | WILLCUTT CREIGHTON | 849-3193+0 |
| 5 | 1801* | TOMS PIZZA | 849-5741+0 |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

# W LINCOLN ST 1976



LINCOLN W 92220 BANNING

| | | |
|---|---|---|
| 800 | *BURGESS NORTH AMER | 849-4751 S |
| | *NORTH AM VAN LINES | 849-4751 |
| 445 | TOWNSEND JOHN | 849-3238 S |
| 679 | *CITY EXPRESS | 849-4671 |
| | *LOS ANGLS CTY EXPRES | 849-4671 + |
| 1103 | BUSHER GARY | 849-7567 S |
| 1127 | ALLEN B KAY | 849-6571 S |
| 1143 | VARDANIAN ARMEN | 849-2378 |
| 1219 | COOP DON | 849-3446+S |
| 1222 | SILVA JEANNE | 849-2514 |
| 1300 | DICARLO MARCIA | 849-3170+6 |
| | SZECSY FERENC | 849-3170 S |
| 1430 | DOOLITTLE JAS M | 849-2606 |
| 1476 | HORN HELEN | 849-4246 S |
| 1522 | RENTFROW KENNETH | 849-4246 |
| 1574 | GILLEY WILSA | 849-2562 S |
| 1617 | ISRELL DONALD R | 849-3031+6 |
| 1661 | HALL BOB W | 849-3801 |
| 1692 | RING JERRY | 849-3721 S |
| 1706 | COOK W T | 849-6455 |
| 1897 | KENNEDY JAY R | 849-4228 |
| 2005 | XXXX | CO |
| 2008 | AGUIRRE CAMILO R | 849-4447 S |
| 2025 | XXXX | CO |
| 2026 | XXXX | CO |
| 2044 | KING PAUL | 849-8161 S |
| 2049 | AUMBERGER WM J | 849-8665+6 |
| 2062 | GOODMAN BOB W | 849-7755 |
| 2080 | XXXX | CO |
| 2099 | GARCIA SATURNINO | 849-2642 |
| 2102 | EWINS YVONNE | 849-7150+6 |
| 2120 | MOORE HAROLD E | 849-3308 |
| 2131 | HIGGINS LARRY | 849-2747 S |
| 2148 | MALICKI DOROTHY M | 849-7129+6 |
| 2156 | STAFFORD SHERRY | 849-3669 S |
| 2174 | GUERRERO EFRAIN | 849-7571+6 |
| 2216 | XXXX | CO |
| 2266 | XXXX | CO |
| 2290 | LUNDGREN HAROLD | 849-2159 S |
| 2343 | SORIANO MARIA | 849-2922+6 |
| | SORIANO RUBEN | 849-2922+6 |
| 2345 | PLANTE D S | 849-3771+6 |
| 2365 | XXXX | CO |
| 2387 | XXXX | CO |
| 2413 | XXXX | CO |
| 2437 | XXXX | CO |
| 2539 | DURKEE CHAS E | 849-2643 S |
| 2565 | LUPER BETTY | 849-7300 |
| 2571 | BOWEN A R | 849-7453 |
| 2585 | CORNELL JOHN | 849-8514+6 |
| 2637 | HUXLEY WM H SR | 849-2238 S |
| | RIEGER CHAS | 849-3077 |
| 2671 | DYKES LARRY | 849-7333 S |
| 2705 | CANSLER ELBERT | 849-4975 S |
| 2721 | ARTALOS MARIE J | 849-2564 |
| 2735 | LUBRICA MAURICE | 849-3931 |
| | * 4 BUS 52 RES | 11 NEW |

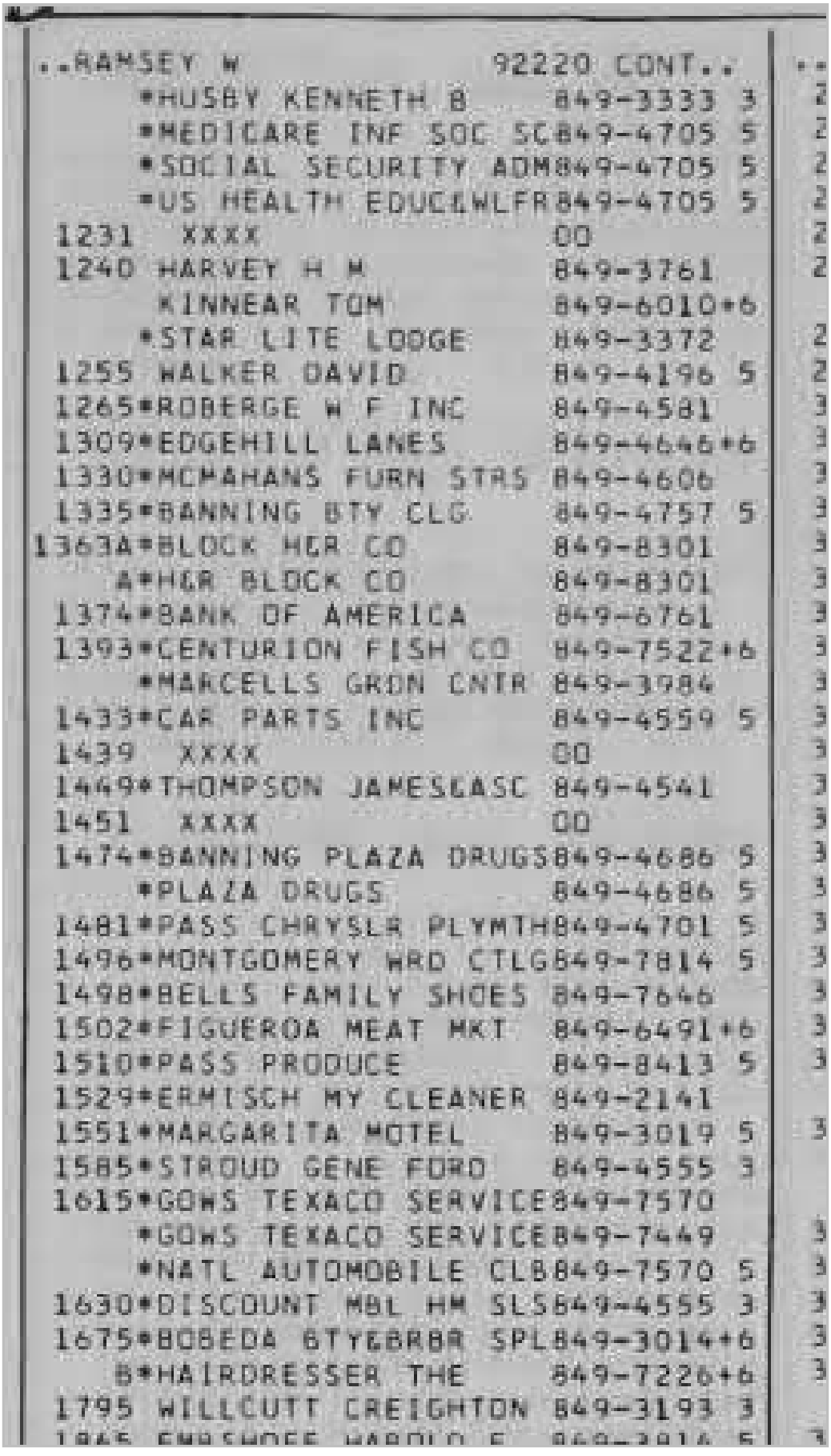
| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Haines Criss-Cross Directory |

## W RAMSEY ST 1976

| | | | |
|---|---|---|---|
| | MITCHELL HARRY J | 849-7500 | +6 |
| 1025 | GRIFFITH RANDY | 849-7275 | 5 |
| 1035 | *GRIMES APPLIANCE | 849-7370 | |
| | GRIMES NICKOLAS | 849-6196 | +6 |
| 1055 | XXXX | 00 | |
| 1072 | *WATSON D PAINT STR | 849-6548 | |
| 1115 | *OERLLINE CLINT INS | 849-2975 | 3 |
| | *WELCOME KITE&CO | 849-4561 | 5 |
| 1118 | *EMPIRE SVNGS&LN ASN | 849-4576 | |
| | *PASS PLAYERS | 849-9940 | 5 |
| 1125 | *PASS CARPETS | 849-3551 | 5 |
| 1153 | *ROFFERS APPLNC RPR | 849-4372 | 5 |
| 1172 | *FIRST NATL BANK | 849-4617 | 5 |
| 1181 | *BENEFICIAL FINANCE | 849-4711 | 5 |
| 1184 | *HUGHES INSURANCE | 849-4551 | +6 |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Haines Criss-Cross Directory |

# W RAMSEY ST 1976



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..RAMSEY W                    92220 CONT..
      *HUSBY KENNETH B        849-3333 3
      *MEDICARE INF SOC SC    849-4705 5
      *SOCIAL SECURITY ADM    849-4705 5
      *US HEALTH EDUC&WLFR    849-4705 5
 1231  XXXX                   OO
 1240 HARVEY H M              849-3761
       KINNEAR TOM            849-6010*6
      *STAR LITE LODGE        849-3372
 1255 WALKER DAVID            849-4196 5
 1265*ROBERGE W F INC         849-4581
 1309*EDGEHILL LANES          849-4646*6
 1330*MCMAHANS FURN STRS      849-4606
 1335*BANNING BTY CLG         849-4757 5
1363A*BLOCK H&R CO            849-8301
    A*H&R BLOCK CO            849-8301
 1374*BANK OF AMERICA         849-6761
 1393*CENTURION FISH CO       849-7522*6
      *MARCELLS GRDN CNTR     849-3984
 1433*CAR PARTS INC           849-4559 5
 1439  XXXX                   OO
 1449*THOMPSON JAMES&ASC      849-4541
 1451  XXXX                   OO
 1474*BANNING PLAZA DRUGS     849-4686 5
      *PLAZA DRUGS            849-4686 5
 1481*PASS CHRYSLR PLYMTH     849-4701 5
 1496*MONTGOMERY WRD CTLG     849-7814 5
 1498*BELLS FAMILY SHOES      849-7646
 1502*FIGUEROA MEAT MKT       849-6491*6
 1510*PASS PRODUCE            849-8413 5
 1529*ERMISCH MY CLEANER      849-2141
 1551*MARGARITA MOTEL         849-3019 5
 1585*STROUD GENE FORD        849-4555 3
 1615*GOWS TEXACO SERVICE     849-7570
      *GOWS TEXACO SERVICE     849-7449
      *NATL AUTOMOBILE CLB     849-7570 5
 1630*DISCOUNT MBL HM SLS     849-4555 3
 1675*BOBEDA BTY&BRBR SPL     849-3014*6
    B*HAIRDRESSER THE          849-7226*6
 1795 WILLCUTT CREIGHTON      849-3193 3
 1845 FMR SHOES HAROLD E      849-3014 5
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| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Haines Criss-Cross Directory |

## W LINCOLN ST 1971

* 0 BUS 23 RES

LINCOLN W 92220 BANNING

| | | |
|---|---|---|
| 300 | *BANNING VAN&STORAGE | 849-4751 |
| | *NORTH AM VAN LINES | 849-4751 |
| 679 | *CITY EXPRESS | 849-4671 |
| | *LOS ANGLS CTY EXPRS | 849-4671 |
| 1143 | VARDANIAN ARMEN | 849-2378 |
| 1219 | SKARE HARLAN S | 849-2760 |
| 1222 | SIGUR JEANNE | 849-2614 |
| 1430 | ODDLITTLE JAS M | 849-2606 |
| 1522 | RENTFROW KENNETH | 849-4246 |
| 1574 | BUTLER CECIL R | 849-6597 |
| 1661 | HALL BOB W | 849-3801 |
| 1692 | RING P W | 849-3982 |
| 1706 | COOK W T | 849-6465 |
| 1897 | KENNEDY JAY R | 849-4228 |
| 2005 | HARVEY H M | 849-4167 |
| 2008 | SCHAFER ALBERT G | 849-7345 |
| | SCHAFER LOUISE E | 849-7345 |
| 2025 | CALVIN GLORIA | 849-4321 |
| 2028 | JOHNSON CARL L | 849-7631 |
| 2062 | GOODMAN BOB W | 849-7755 |
| 2099 | GARCIA SATURNINO | 849-2642 |
| 2102 | BROWNING PATRICK K | 849-7281 |
| 2120 | MOORE HARDLD E | 849-3306 |
| 2148 | MALICKI JEROME A | 849-7129 |
| 2156 | JONES CATHY | 849-4134 |
| 2216 | GORMAN DONALD R | 849-3629 |
| 2266 | PEHAU LAURENCE | 849-7642 |
| 2387 | CRNJANSKI LAZAR | 849-6689 |
| 2413 | HARWELL JOHN K | 849-4392 |
| 2437 | GRIFFIN LOUIS L | 849-6038 |
| 2565 | LUPER BETTY | 849-7300 |
| 2571 | BOWEN A R | 849-7453 |
| 2637 | RIEGER CHAS | 849-3077 |
| 2671 | REDA FRANK S | 849-6335 |
| 2705 | NORMAN NORMAN F | 849-8520 |
| 2721 | ARTAJOS MARIE J | 849-2564 |
| 2735 | LUBRICA MAURICE | 849-3931 |

* 4 BUS 33 RES

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Haines Criss-Cross Directory |

## W RAMSEY ST 1971

| | | |
|---|---|---|
| | *BUYER L&H REALTORS | 849-2272 |
| 1025 | RANEY FRANK W | 849-7267 |
| | WILSON ROBT A | 849-7355 |
| 1035 | *GRIMES APPLIANCE | 849-7370 |
| 1055 | *PASS EMPLOYMENT AGC | 849-4497 |
| 1072 | *WATSON O PAINT STR | 849-6548 |
| 1118 | *EMPIRE SVNGS&LN ASN | 849-4576 |
| 1125 | *LEOS UPHOLSTERY | 849-2211 |
| 1153 | *ALL APPLIANCE SV | 849-7491 |
| 1172 | *PALM SPRNGS NATL BK | 849-4617 |
| 1184 | OAVIS LESLIE G | 849-2024 |
| | HUSBY KENNETH B | 849-3333 |
| | *RICHTER A GEO | 849-7438 |
| | *SHAKLEE DISTRIBUTOR | 849-2024 |
| 1231 | *KNITTING NOOK | 849-3616 |
| 1240 | DICKINSON JOE C | 849-3736 |
| | HARVEY H M | 849-3761 |
| | *STAR LITE LOOGE | 849-3372 |
| | STORTI JOS | 849-2105 |
| 1255 | CASTRO RAMON | 849-3351 |
| 1265 | *ROBERGE W F INC | 849-4581 |
| 1330 | *MCMAHANS FURN STRS | 849-4606 |
| 1335 | *TOPPERS STEAK HOUSE | 849-9950 |
| 1363A | *BLOCK H&R CO | 849-8301 |
| A | *H&R BLOCK CO | 849-8301 |
| B | *JACKS BARBER SHOP | 849-2770 |
| 1374 | *BANK OF AMERICA | 849-6761 |
| 1393 | *GARDEN BEVERAGE SH | 849-3918 |
| | *MARCELLS GRDN CNTR | 849-3984 |
| 1439 | *FARMERS INS GROUP | 849-2070 |
| | *MCRAE BOB | 849-2070 |
| 1449 | *THOMPSON JAMES&ASC | 849-4541 |
| 1474 | *ALLSTATE DRUG STORE | 849-4686 |
| 1481 | *BURSON POYNTER | 849-4701 |
| 1496 | *MODE DDAY FROCK SH | 849-2221 |
| 1498 | *BELLS FAMILY SHOES | 849-7646 |
| 1510 | *KIRBYS TV | 849-7633 |
| 1529 | *ERMISCH MY CLEANER | 849-2141 |
| 1551 | *MARGARITA MOTEL | 849-2705 |
| | *MARGARITA MOTEL | 849-9920 |
| 1585 | *CLEVE WISCHAN FORD | 849-4523 |
| | *WISCHAN CLEVE FORD | 849-4523 |
| 1615 | *DOWS TEXACO SERVICE | 849-7449 |
| | *DOWS TEXACO SERVICE | 849-7570 |
| 1630 | *CLEVE WISCHAN FORD | 849-7636 |
| 1675 | *A&W ROOT BEER | 849-2405 |
| 1795 | SUMPTER LEON | 849-6186 |

# Client/User Required Questionnaire

| | |
|---|---|
| **Person Completing Questionnaire** | Name: Ryan Secrist<br>Company: Brown Strauss, Inc.<br>Phone: 303-596-8641<br>Email: rsecrist@brownstrauss.com |
| **Site Name** | Banning Industrial |
| **Site Address** | 1431 and 1219 West Lincoln Street, Banning, California 92220 |
| **Point of Contact for Access** | Name: Michael Baldi<br>Company: Baldi Real Estate<br>Phone: 951-845-9521<br>Email: mbaldi@baldibros.com |
| **Access Restrictions or Special Site Requirements?** | X No ___Yes (If yes, please explain) |
| **Confidentiality Requirements?** | X No ___Yes (If yes, please explain) |
| **Current Site Owner** | Name: Michael Baldi<br>Company: Baldi Real Estate<br>Phone: 951-845-9521<br>Email: mbaldi@baldibros.com |
| **Current Site Operator** | Name: N/A - vacant land<br>Company:<br>Phone:<br>Email: |
| **Reasons for ESA** (e.g., financing, acquisition, lease, etc.) | Acquisition |
| **Anticipated Future Site Use** | Structural steel storage and distribution |
| **Relevant Documents?** | Please provide Terracon copies of prior Phase I or II ESAs, Asbestos Surveys, Environmental Permits or Audit documents, Underground Storage Tank documents, Geotechnical Investigations, Site Surveys, Diagrams or Maps, or other relevant reports or documents. |

**ASTM User Questionnaire**

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must respond to the following questions. Failure to provide this information to the environmental professional may result in significant data gaps, which may limit our ability to identify recognized environmental conditions resulting in a determination that "all appropriate inquiry" is not complete. This form represents a type of interview and as such, the user has an obligation to answer all questions in good faith, to the extent of their actual knowledge.

1) Did a search of recorded land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.25)?
X No ___Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

2) Did a search of recorded land title records (or judicial records where appropriate) identify any activity and use limitations (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.26)?
X No ___Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

3) Do you have any specialized knowledge or experience related to the site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the site or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business (40 CFR 312-28)?
X No ___Yes (If yes, explain below)

4) Do you have actual knowledge of a lower purchase price because contamination is known or believed to be present at the site (40 CFR 312.29)?
X No ___Yes ___Not applicable (If yes or Not applicable, explain below)

5) Are you aware of commonly known or reasonably ascertainable information about the site that would help the environmental professional to identify conditions indicative of releases or threatened releases (40 CFR 312.30)?
X No ___Yes (If yes, explain below)

6) Based on your knowledge and experience related to the site, are there any obvious indicators that point to the presence or likely presence of contamination at the site (40 CFR 312.31)?
X No ___Yes (If yes, explain below)

Comments or explanations:

Please return this form with the signed authorization to proceed. Proposal No. PLA227292

DATE : 8-25-2022

LAURA HEDMAN

TERRACON

1355 EAST COOLEY DRIVE

COLTON, CALIFORNIA 92324

LA227292

TEXAS ENVIRONMENTAL RESEARCH

126 SCEPTRE DRIVE
ROCKWALL, TEXAS 75032

TEL: (972) 772-4283
FAX: (972) 772-4283

# ENVIRONMENTAL AND OTHER ACTIVITY AND USE LIMITATION

# (AUL) SEARCH

THE ATTACHED REPORT IS BEING PROVIDED TO APPLICANT SOLELY FOR THE PURPOSE OF FACILITATING LANDOWNER OR PURCHASE DEFENSES WHICH MAY BE AVAILABLE UNDER THE LIABILITY ACT OF 1980, AS AMENDED. IT IS PROVIDED FOR THE SOLE USE AND BENEFIT OF APPLICANT AND MAY NOT BE USED OR RELIED UPON BY ANY OTHER PARTY FOR ANY REASON.

NOTE: THIS SEARCH REPRESENTS SURFACE CONVEYANCES ONLY. TOTAL LIABILITY OF TEXAS ENVIRONMENTAL RESEARCH COMPANY IS LIMITED TO THE AMOUNT PAID FOR THIS REPORT.

THIS REPORT WAS PREPARED FOR THE PURPOSE OF ASSISTING IN AN ENVIRONMENTAL HAZARD INSPECTION OF THE FOLLOWING DESCRIBED PROPERTY.

LEGAL DESCRIPTION: PARCEL'S: 540-180-020, 540-180-022 AND 540-180-026, 1431 AND 1219 WEST LINCOLN STREET.

CURRENT OWNER: BALDI REAL ESTATE.

DATE : NOVEMBER 7, 2018

INSTRUMENT: WARRANTY DEED

GRANTOR : BALDI BROTHERS CONSTRUCTION

GRANTEE : BALDI REAL ESTATE

FILE NO. : 438355

DATE : OCTOBER 28, 1971

INSTRUMENT: WARRANTY DEED

GRANTOR : MICHAEL V. BALDI, ET AL

GRANTEE : BALDI BROTHERS CONSTRUCTION

FILE NO. : 720915

DATE : MARCH 9, 1965

INSTRUMENT: WARRANTY DEED

GRANTOR : HERNALDO CANTO, ET AL

GRANTEE : MICHAEL V. BALDI, ET AL

FILE NO. : 573629

DATE : MARCH 20, 1955

INSTRUMENT: WARRANTY DEED

GRANTOR : SHANTELL BIROTTE, ET AL

GRANTEE : HERNALDO CANTO, ET AL

FILE NO. : 00229

DATE : APRIL 1, 1944

INSTRUMENT: WARRANTY DEED

GRANTOR : NILDA DE LA PENA

GRANTEE : SHANTELL BIROTTE, ET AL

FILE NO. : 79153

DATE : MAY 17, 1936

INSTRUMENT: WARRANTY DEED

GRANTOR : GILBERT PENA

GRANTEE : NILDA DE LA PENA

FILE NO. : 492684

EASEMENTS : UTILITY EASEMENT.

Prepared by Texas Environmental Research on 8-25-2022.

# ENVIRONMENTAL LIEN AND OTHER ACTIVITY AND USE LIMITATIONS SEARCH

AFTER COMPLETING AN ENVIRONMENTAL LIEN AND OTHER ACTIVITY AND USE LIMITATIONS SEARCH A FINDING THAT NO ENVIRONMENTAL LIENS OR AUL'S HAVE BEEN FILED OF PUBLIC RECORD AND THAT IT HAS BEEN DETERMINED THAT THE PROPERTY RESEARCHED IN THIS REPORT COMPLIES WITH ASTM E 1527-21-SEC. 8.3.4.9 AND SECTION 6.2

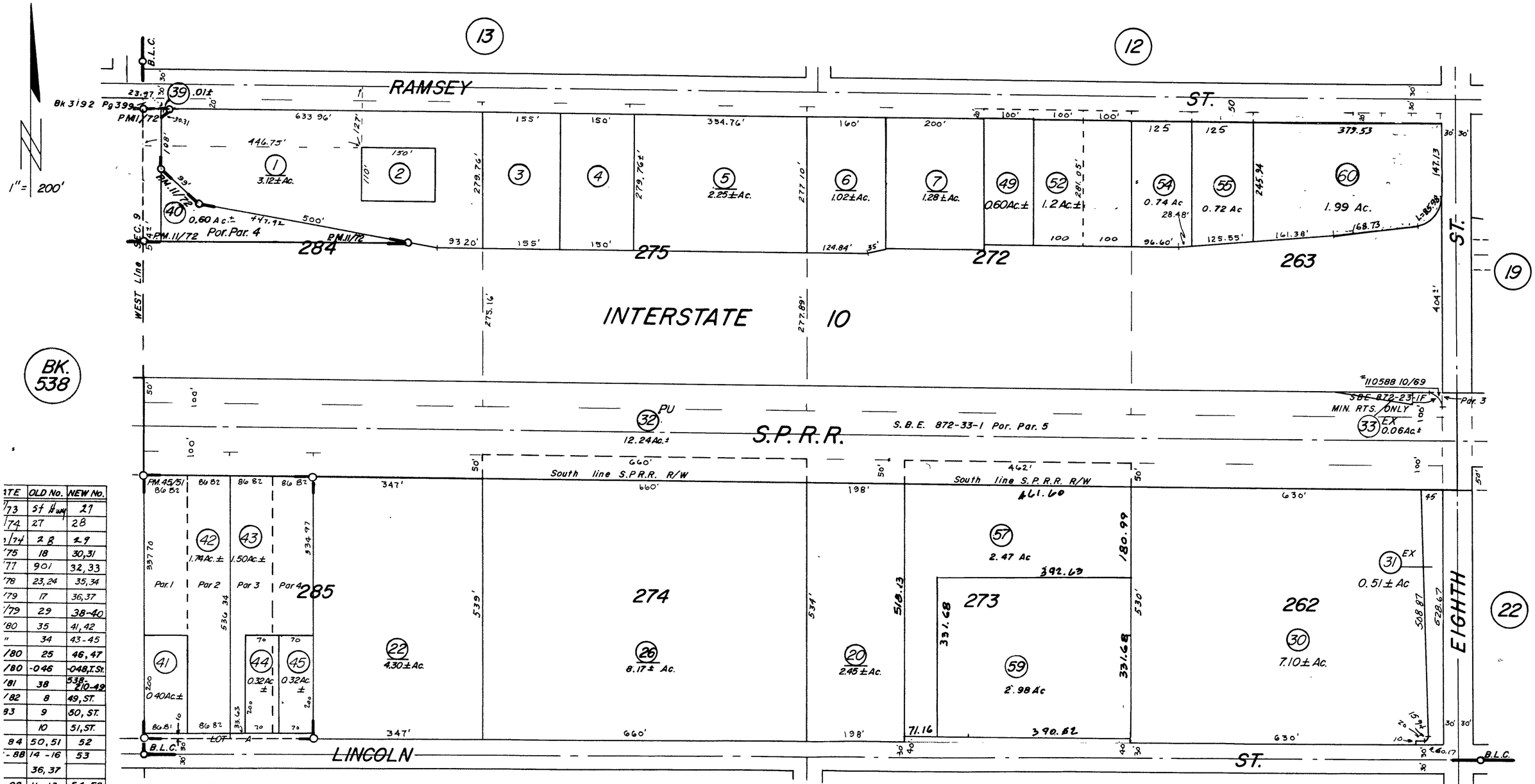
THIS REPORT MEETS OR EXCEEDS A.S.T.M. E 1527-21.

540-18

TRA 001-020

# POR. N1/2 SW 1/4 SEC. 9, T.3S., R.1E.

THIS MAP IS FOR ASSESSMENT PURPOSES ONLY




| ATE | OLD No. | NEW No. |
|---|---|---|
| /73 | St Hwy | 27 |
| /74 | 27 | 28 |
| /74 | 28 | 29 |
| /75 | 18 | 30,31 |
| /77 | 901 | 32,33 |
| /78 | 23,24 | 35,34 |
| /79 | 17 | 36,37 |
| /79 | 29 | 38-40 |
| /80 | 35 | 41,42 |
| " | 34 | 43-45 |
| /80 | 25 | 46,47 |
| /80 | -046 | -048,T.St. |
| /81 | 38 | 538-210-49 |
| /82 | 8 | 49,ST. |
| 83 | 9 | 50,ST. |
| | 10 | 51,ST. |
| 84 | 50,51 | 52 |
| -88 | 14-16 | 53 |
| | 36,37 | |
| -92 | 11-13 | 54-56 |
| -06 | 47 | 57,58 |
| " | 48,58 | 59 |
| 09 | 53,56 | 60 |

P.M. 45/51 Parcel Map 77-17
M.B. 9/44 S.B. Amended Map of the Banning Land Co.
P.M. 11/72 Parcel Map 73-4
Data: State Hwy. Map 8 RIV 10
S.B.E. Map 872-33-1
RS 81/8

ASSESSOR'S MAP BK. 540 PG. 18
RIVERSIDE COUNTY, CALIF.

AUGUST 1969

RivCoView
Assessor-County Clerk-Recorder
Riverside County

Search By: Cities | Type to Search

Property Search | Assessment | Sales | Permits | Area Overview | Census | Education | Map Layers

Contact Us | RivCoView Website Survey | ACR Website | Start Tour | Print

# roperty Search

You can search by Property ID Number (PIN/APN), or Property Address.

For best results when searching by Property Address, please enter street number and street name (e.g.,123 Main).

Property ID Number (PIN/APN) | 540180020 | Go!

## Property ID Number (PIN/APN): 540180020

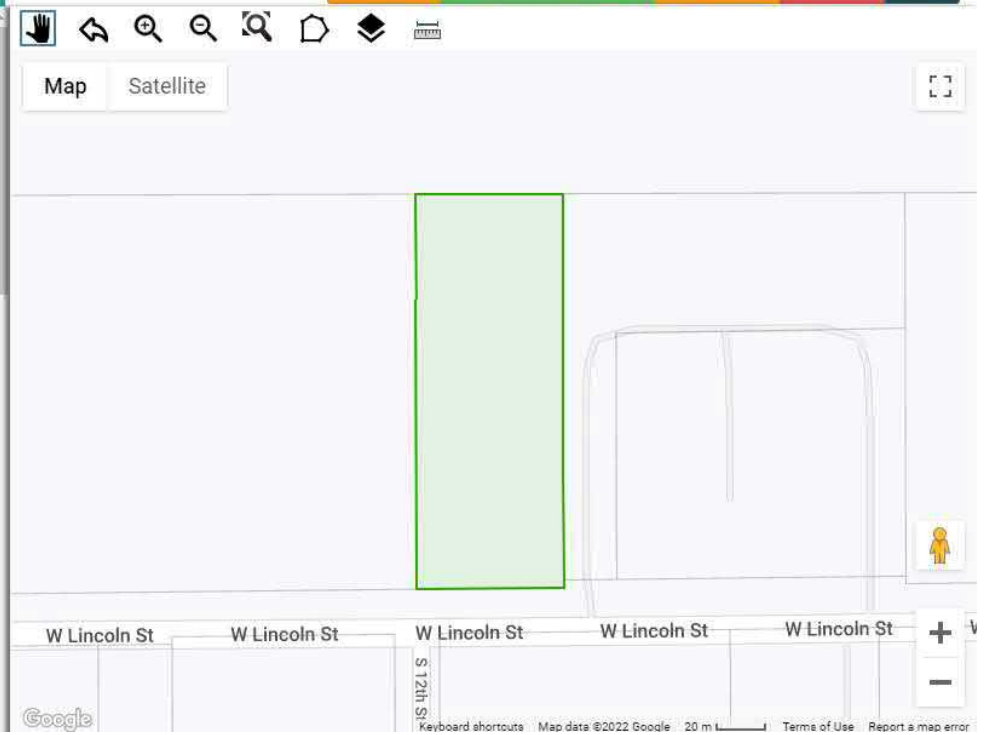


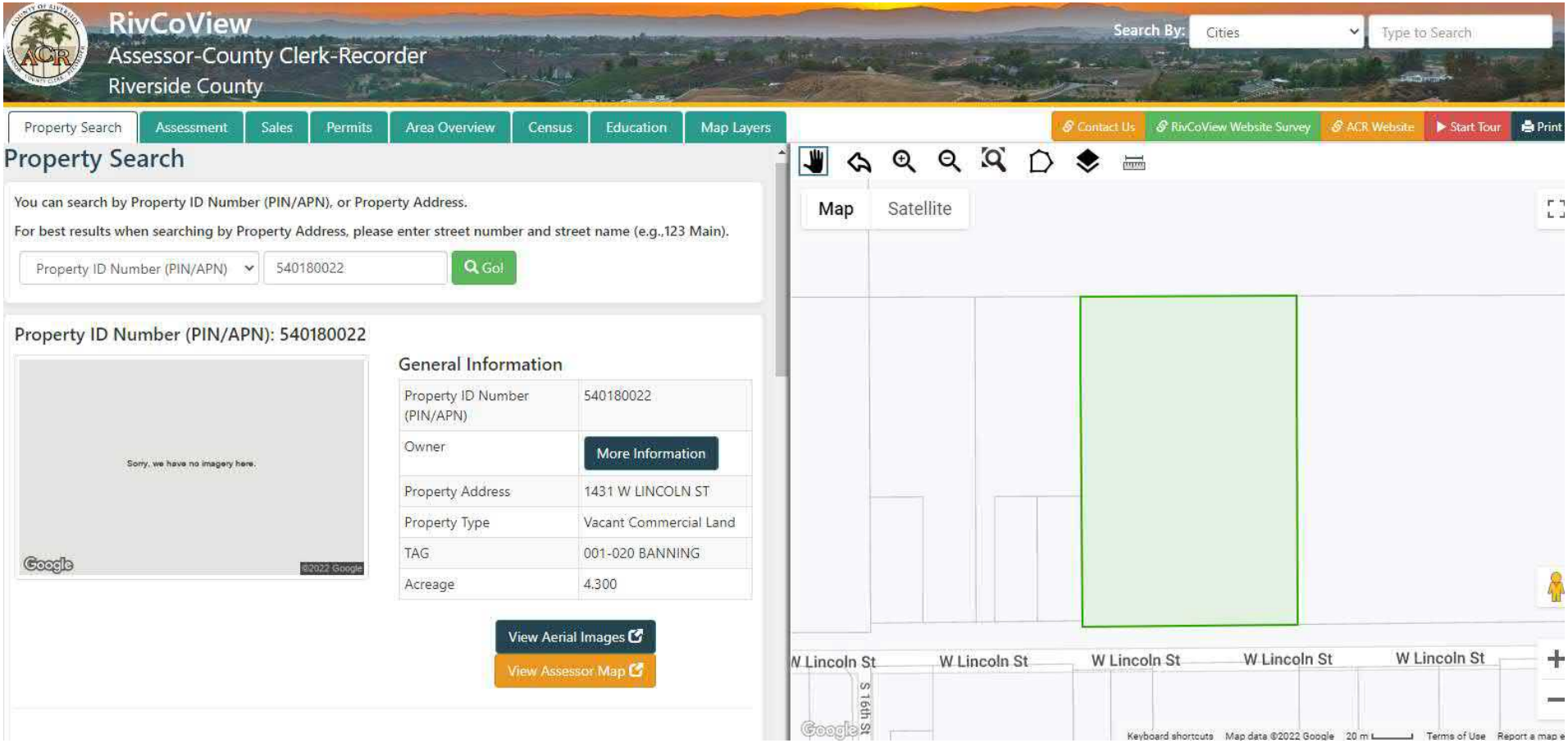

### General Information

| | |
|---|---|
| Property ID Number (PIN/APN) | 540180020 |
| Owner | More Information |
| Property Address | - No Situs - |
| Property Type | Vacant Commercial Land |
| TAG | 001-020 BANNING |
| Acreage | 2.450 |

View Aerial Images

View Assessor Map




RivCoView
Assessor-County Clerk-Recorder
Riverside County
Search By:
Cities
Type to Search
Property Search
Assessment
Sales
Permits
Area Overview
Census
Education
Map Layers
Contact Us
RivCoView Website Survey
ACR Website
Start Tour
Print
Property Search
You can search by Property ID Number (PIN/APN), or Property Address.
For best results when searching by Property Address, please enter street number and street name (e.g.,123 Main).
Property ID Number (PIN/APN)
540180022
Go!
Property ID Number (PIN/APN): 540180022
Sorry, we have no imagery here.
Google
©2022 Google
General Information
Property ID Number (PIN/APN) 540180022
Owner
More Information
Property Address 1431 W LINCOLN ST
Property Type Vacant Commercial Land
TAG 001-020 BANNING
Acreage 4.300
View Aerial Images
View Assessor Map
Map
Satellite
W Lincoln St
W Lincoln St
W Lincoln St
W Lincoln St
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Google
Keyboard shortcuts
Map data ©2022 Google
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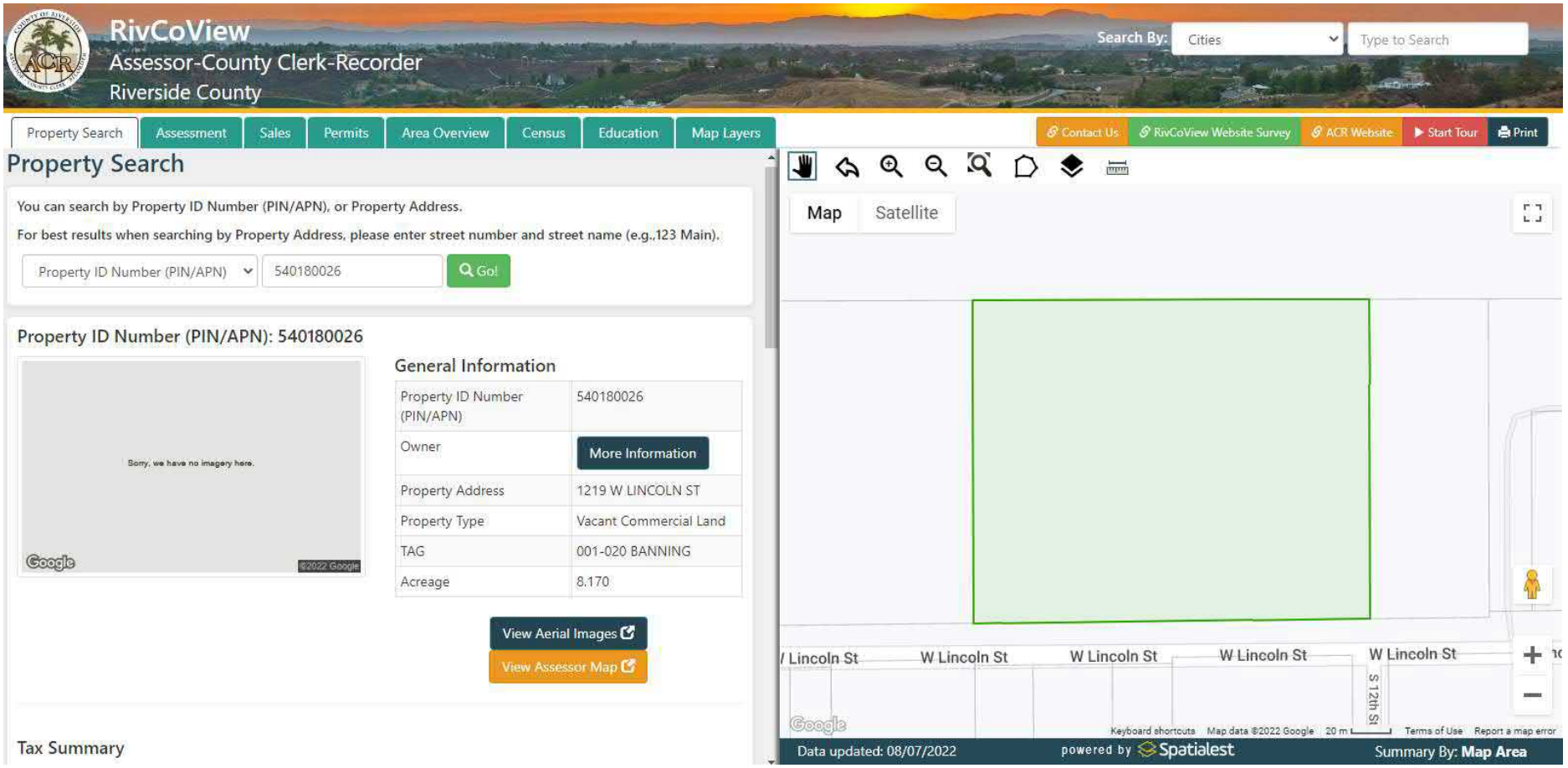
Report a map e


RivCoView
Assessor-County Clerk-Recorder
Riverside County
Search By:
Cities
Type to Search
Property Search
Assessment
Sales
Permits
Area Overview
Census
Education
Map Layers
Contact Us
RivCoView Website Survey
ACR Website
Start Tour
Print
Property Search
You can search by Property ID Number (PIN/APN), or Property Address.
For best results when searching by Property Address, please enter street number and street name (e.g.,123 Main).
Property ID Number (PIN/APN)
540180026
Go!
Property ID Number (PIN/APN): 540180026
Sorry, we have no imagery here.
Google
©2022 Google
General Information
Property ID Number (PIN/APN) 540180026
Owner
More Information
Property Address 1219 W LINCOLN ST
Property Type Vacant Commercial Land
TAG 001-020 BANNING
Acreage 8.170
View Aerial Images
View Assessor Map
Tax Summary
Map
Satellite
W Lincoln St
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Google
Keyboard shortcuts
Map data ©2022 Google
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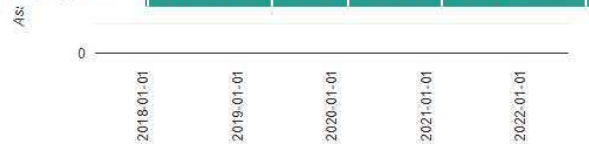
Data updated: 08/07/2022
powered by Spatialest
Summary By: Map Area

RivCoView
Assessor-County Clerk-Recorder
Riverside County

Search By: Cities | Type to Search

Property Search | Assessment | Sales | Permits | Area Overview | Census | Education | Map Layers

Contact Us | RivCoView Website Survey | ACR Website | Start Tour | Print




7.22%
Increase since **2018**

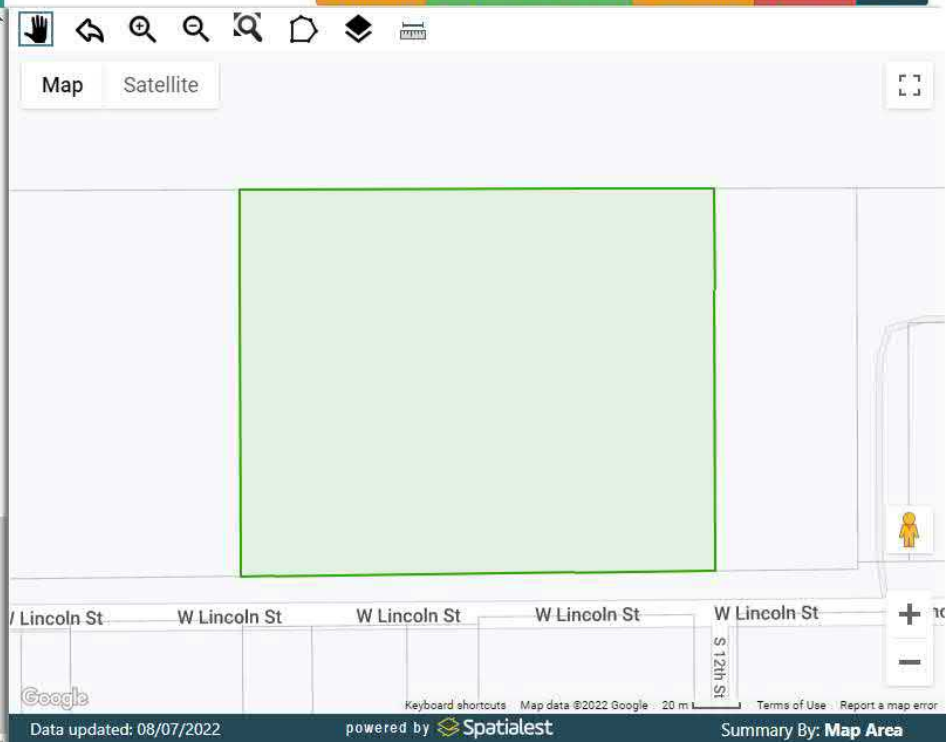
## Sales History

| Date | Document # | Sale Price | Sale Type | Qualified |
|---|---|---|---|---|
| 08-27-1981 | 1981-162886 | $200.000 | Straight Transfer | Qualified |

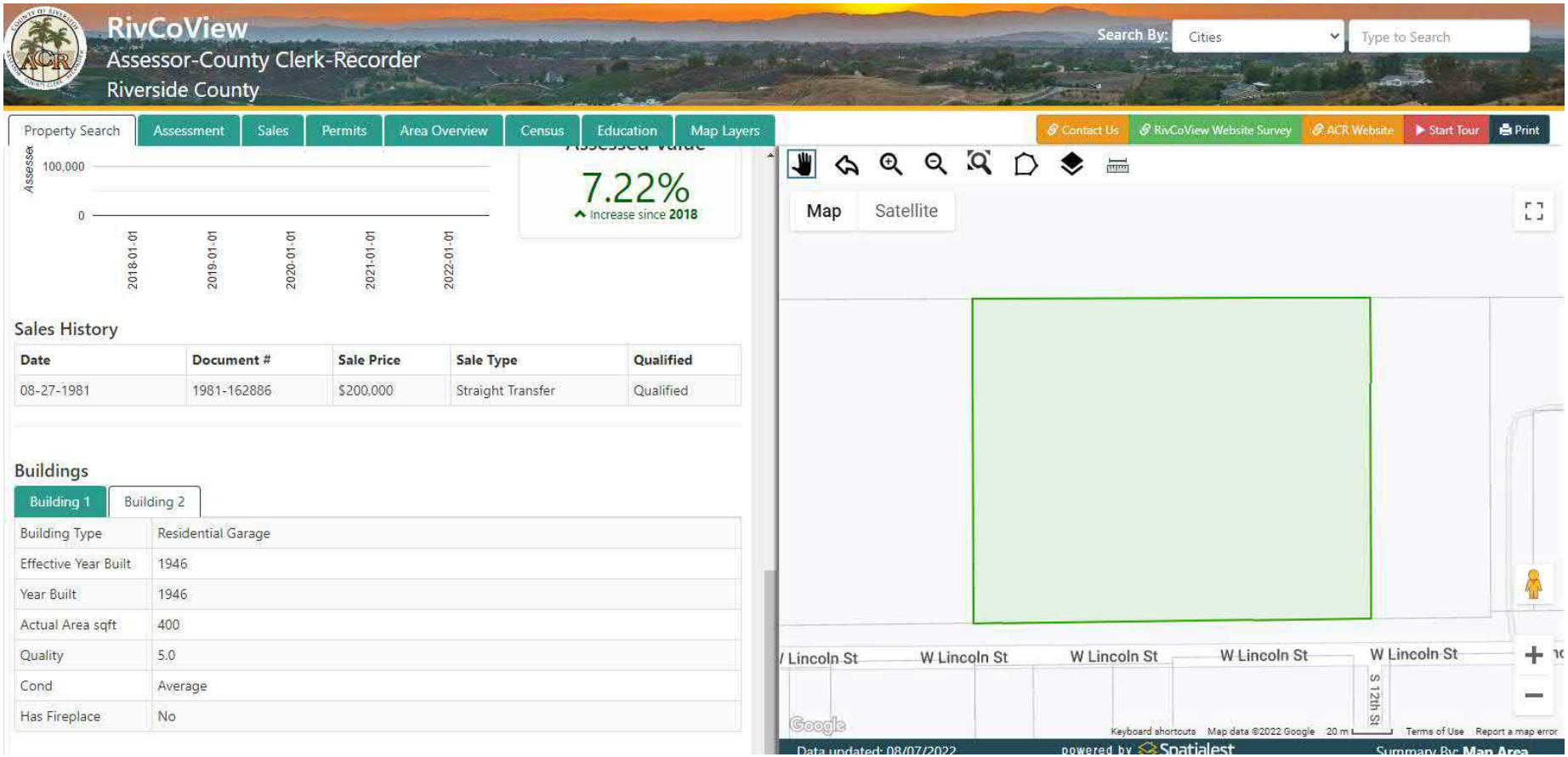
## Buildings

Building 1 | Building 2

| | |
|---|---|
| Building Type | Commercial / Industrial |
| Effective Year Built | 1946 |
| Year Built | 1946 |
| Actual Area sqft | 909 |
| Quality | 5.0 |
| Cond | Fair |
| Has Fireplace | No |
| Roof Type | Rock/Composite |




Data updated: 08/07/2022 powered by Spatialest Summary By: **Map Area**


RivCoView
Assessor-County Clerk-Recorder
Riverside County
Search By:
Cities
Type to Search
Property Search
Assessment
Sales
Permits
Area Overview
Census
Education
Map Layers
Contact Us
RivCoView Website Survey
ACR Website
Start Tour
Print
Assessed
100,000
0
2018-01-01
2019-01-01
2020-01-01
2021-01-01
2022-01-01
7.22%
Increase since 2018
Sales History
Date
Document #
Sale Price
Sale Type
Qualified
08-27-1981
1981-162886
$200,000
Straight Transfer
Qualified
Buildings
Building 1
Building 2
Building Type
Residential Garage
Effective Year Built
1946
Year Built
1946
Actual Area sqft
400
Quality
5.0
Cond
Average
Has Fireplace
No
Map
Satellite
W Lincoln St
W Lincoln St
W Lincoln St
W Lincoln St
S 12th St
Google
Keyboard shortcuts
Map data ©2022 Google
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Data updated: 08/07/2022
powered by Spatialest
Summary By: Map Area

# CITY OF BANNING

DEPARTMENT OF BUILDING AND SAFETY

P.O. Box 998

Banning, California 92220

849-4511

No 5516

Date Issued 5/2/95

## BUILDING PERMIT

OWNER Emanuel Bible

ADDRESS 101 Cabil

CITY Banc PH 845-9521

CONTRACTOR Bruce Conc. Const.

ADDRESS 101 Cabil

CITY Banc PH 845-9521

ARCHITECT

ADDRESS

PHONE

INTENDED USE Conc. Addition Enlargement

BUILDING SITE 1219 W Ensanada

Address of the application

ADDRESS

Building Information

ZONING

PLANS

SPECIAL CONDITIONS

EST. VALUATION $600.00

BUILDING PERMIT FEE

TOTAL

### PLUMBING FEE

CONTRACTOR NAME

| No. | State Lic. # | Amt. |
|---|---|---|
| | Fixture Traps | |
| | Bldg./Trailer Sewer | |
| | Rainwater Drain | |
| | PVT. Sewage System | |
| | Water Heater/Vents | |
| | Ind. Waste Interceptor | |
| | Water System | |
| | Sprs./Mis.Drainage Pipe | |
| | Lawn Sprinkler System | |
| | Atmospher. Vacu. Relief | |
| | Backflow Prev. Dev. | |
| | Gas Piping System | |
| | Misc. Insp. | |
| | Plan Check Fee | |
| | Permit Fee | |

TOTAL FEE

### ELECTRICAL FEES

CONTRACTOR NAME

| No. | State Lic. # | Amt. |
|---|---|---|
| | Service Fee Solid | |
| | PVT. Pools | |
| | Circuits/Circus | |
| | Temp. Power Serv. | |
| | Recepticles/Switches | |
| | Lighting Fixtures | |
| | Res. Appliances | |
| | Misc. Res. Appl. | |
| | Power Apparatus | |
| | Busways | |
| | Signs/Outlighting | |
| | Services 100 Amps | 12.50 |
| | Misc. Apparatus | |
| | Wiring@ 30 Ft | |
| | Plan Check Fee | |
| | Permit Fee | 20.00 |

TOTAL FEE 32.50

### MECHANICAL

CONTRACTOR NAME

| No. | State Lic. # | Amt. |
|---|---|---|
| | Res. Air Cond. | |
| | Res. Heating | |
| | Misc. Mech. Equip. | |
| | Misc. Mech. Insp. | |
| | Plan Check Fee | |
| | Permit Fee | |

TOTAL FEE

### MISC. PERMITS

| | |
|---|---|
| Code Compliance | |
| Re-Inspection Fee | |
| Plan Review Res. | |
| M/H Installation | |
| M/H Accessory | |
| Misc. Bldg. Fee | |
| Abatement Insp. | |
| Demolition | |
| Special Inspection | |
| C.U.P. Bldg. & Plan Review | |

TOTAL FEE

### GRADING PERMITS

CONTRACTOR NAME

| No. | State Lic. # | Amt. |
|---|---|---|
| | Grading Permit | |
| | Grading Plan Review | |
| | Plan Revision Review | |

TOTAL FEE

| | AMOUNT |
|---|---|
| On Site Inspec. | |
| Construction | |
| Plan Check | |
| Plumbing | |
| Electrical | 32.50 |
| Mechanical | |
| Geo. Plan Study | |
| Grading Permit Fee | |
| Grading Review Fees | |
| Misc. Bldg. Fee | |
| Code Compliance | |
| Const. Re-Inspec. | |
| Plan Storage Fee | 2.00 |
| Subdiv. S.M.I.P. | |
| Fire Dept. Insp. | |
| Fire Dept. Plan Check | |

TOTAL FEES 34.50

WHITE - Building Department YELLOW - Assessor's Office PINK - File Copy GOLD - Applicant's Copy

# CITY OF BANNING

DEPARTMENT OF BUILDING AND SAFETY
P.O. Box 998
Banning, California 92220
849-6611

Date Issued 7-25-97

## BUILDING PERMIT

Lot 1 Block 1
Tract 1
Lot Size

1927 W. Lincoln

2177.27 — 5216

Water & Power Purchased

Building Information

SFR - IRC - Class

1st Floor

TOTAL

| PLAN CHECK | ELECTRICAL FEES | MECHANICAL | GRADING PERMITS |
|---|---|---|---|
| | | | Grading Permit |
| | | | Grading Plan Review |
| | | | Plan Processing Review |
| | | | TOTAL FEE |
| | | | CURRENT |
| | | | Type Use |
| | | | Construction |
| | | | Plan Check |
| | | | Permit |
| | | | Inspection |
| | | | Miscellaneous |
| | | | Total Plan Check |
| | | | Grading Permit Fee |
| | | | Public Works Fees |
| | | | New Bldg Fee 30 |
| | | | Code Compliance |
| | | | Const. Tax Imp. |
| | | | Plan Storage Fee |
| | | | Strong Motion |
| | | | Fire Dept. Insp. |
| | | | Fire Dept. Plan Check |
| TOTAL FEE | TOTAL FEE | TOTAL FEE 3. | TOTAL FEE 30 |

Building Inspector

City of Bonning

**BUILDING DEPARTMENT**

# FLUMBING PERMIT

**No. 6115**

Permission is hereby granted [illegible] (Owner)

[illegible] (Contractor) to install

[illegible] (Address)

[illegible]

| | Units | | Fee |
|---|---|---|---|
| Plumbing Fixtures or Trap including Water and Drainage Piping: | | | |
| Bath Tubs | | | |
| Laundry Trays | | | |
| Lavatories | | | |
| Sinks | | | |
| Showers | | | |
| Water Closets | | | |
| Others | | | |
| TOTAL FIXTURES | | [illegible] | |
| Water Piping and Water Treating | | [illegible] 1.00 | |
| Equipment | | 1.00 | |
| House Sewers | | [illegible] 2.00 | |
| Cesspools (1) Septic Tanks (1) | | [illegible] 1.00 | |
| Water Heaters and or Vents | | [illegible] 1.00 | |
| Gas Piping of 1 to 5 Outlets | Flat Fee | [illegible] 1.00 | |
| Gas Piping System of 6 Outlets or more, per outlet | | [illegible] .20 | |
| Drainage or Vent Piping (Rep. or Alter.) | | [illegible] 1.00 | |
| Vacuum breakers or back-flow protective devices (after equip. served is installed) | Flat Fee | [illegible] 1.00 | |
| (1 to 5) | | [illegible] .20 | |
| (6 or more) each | | | |
| Permit Fee Each Permit | | | [illegible] |
| TOTAL | | | |

This permit is subject to all rules and regulations set forth in Ordinance No. [illegible] of the City of Bonning and amendments thereto, and all other applicable laws.

Plumbing Official

By

# CITY OF BANNING

DEPARTMENT OF BUILDING AND SAFETY

P.O. Box 998

Banning, California 92220

922-1626

## BUILDING PERMIT AND RECEIPT

2655

Date issued 7-25-03

City Business License No. _____

OWNER

ADDRESS

CONTRACTOR

ADDRESS

CITY

STATE

ZIP CODE

PHONE NO.

ARCH. / ENGR.

ADDRESS

INTENDED USE

KIND OF WORK

TYPE OF CONSTRUCTION

FOUNDATION

CONCRETE

MATERIAL

ROOFING

SPECIAL CONDITIONS

PLASTER

BUILDING INFORMATION

| | | | |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

0004

# CITY OF BANNING
DEPARTMENT OF BUILDING AND SAFETY
P.O. Box 998
Banning, California 92220
922-1220

Date Issued 3-4-92

## BUILDING PERMIT
CASH RECEIPT

City Business License No. _____

OWNER Tim + Susan Ortega
ADDRESS 1431 W. Nicolet St. 849-4124
CONTRACTOR Owner Builder
ADDRESS
CITY ST
PHONE
LICENSE NO.
DATE
TEL
ARCHITECT
ENGINEER
ADDRESS
INTENDED USE OF
DESCRIPTION OF WORK 1166 Building & Ftgs
VALUATION $ 500.00

SPECIAL CONDITIONS

POSTED

LOCATION 1431 W. Nicolet St.

I hereby acknowledge that I have read and understand the application and approved Plans and further state that one set of approved plans will be kept on the job at all times that work is performed. I agree to comply with all City Ordinances and State Laws relating to building construction. I certify that only those the work authorized by this permit will be performed. I am licensed under the provisions of Chapter 9 of Division 3 of the Business and Professions Code of the State of California and my license is in full force and effect. I am licensed under the provisions of Chapter 9 of Division 3 of the Business and Professions Code of the State of California and my license is in full force and effect. I am licensed under the provisions of Chapter 9 of Division 3 of the Business and Professions Code of the State of California and my license is in full force and effect.

SIGNATURE OF Susan Ortega
ADDRESS

BUILDING INFORMATION
NEW / ADD / ALTER / REPAIR / DEMOLISH / MOVE
OCCUPANCY GROUP
TYPE OF CONSTRUCTION
STORIES / UNITS / BEDROOMS / BATHS
FOUNDATION / FLOOR / ROOF / EXTERIOR WALLS / INTERIOR WALLS
SQUARE FEET
ASSESSOR'S PARCEL NO. 540-052-030
SUBDIVISION / LOT / BLOCK
PUBLIC WORKS REQUIRED: DRIVEWAY / CURBS / GUTTERS / SIDEWALKS / STREET LIGHTS / STREET TREES

| | | |
|---|---|---|
| 1ST FL | 50 FT. @ | |
| 2ND FL | 50 FT. @ | |
| GAR | 50 FT. @ | |
| PATIO | 50 FT. @ | |
| CONTRACTOR'S | SQUARE FT. @ | TOTAL |

| ACCOUNT CODE / ACCOUNT NO. | AMOUNT |
|---|---|
| Building Construction 01-0000-0000 | 22.00 |
| Building Construction Fuel Check 01-0000-0000 | 14.30 |
| Plumbing Permit 01-0000-0000 | |
| Electrical Permit 01-0000-0000 | |
| Mechanical Permit 01-0000-0000 | |
| Swimming Pool Permit 01-0000-0000 | |
| Grading Permit Fee 01-0000-0000 | |
| Miscellaneous Fee 01-0000-0000 | |
| Subdivision Fees 01-0000-0000 | |
| Tree Preservation Fees 01-0000-0000 | |
| Misc. Building Fees 01-0000-0000 | |
| Code Enforcement Fines 01-0000-0000 | |
| Other Planning Fees 01-0000-0000 | |
| Engineering Fees 01-0000-0000 | .65 |
| Misc. Engineering Fees 01-0000-0000 | |
| SUB TOTAL | 36.95 |
| Fire Dept. Fees 01-0000-0000 | |
| Fire Dept. Plan Checks 01-0000-0000 | |
| Public Safety Fire Prev. Fees 01-0000-0000 | |
| Public Safety Eng. Prev. Fees 01-0000-0000 | |
| Public Safety Mitigation Fees 01-0000-0000 | |
| Public Safety Mitigation Fees - Police 01-0000-0000 | |
| School Impact Fees 01-0000-0000 | |
| Fire Mitigation Fund 01-0000-0000 | |
| Park Land Fund 01-0000-0000 | |
| Park Dev. Fund 01-0000-0000 | |
| Transportation Fees 01-0000-0000 | |
| TOTAL FEE | 36.95 |

| PLUMBING FEES | | | ELECTRICAL FEES | | | MECHANICAL | | |
|---|---|---|---|---|---|---|---|---|
| CONTRACTOR NAME | | | CONTRACTOR NAME | | | CONTRACTOR NAME | | |
| No. | State Lic. # | Amt. | No. | State Lic. # | Amt. | No. | State Lic. # | Amt. |
| TOTAL FEE | | | TOTAL FEE | | | TOTAL FEE | | |

# CITY OF BANNING

DEPARTMENT OF BUILDING AND SAFETY
P.O. Box 998
Banning, California 92220
849-6611

No 6409

Date Issued 3/3/97

BUILDING PERMIT

Name Sara Gallegos
Address 1921 W. Ramsey
City Banning
Contractor Owner
Address
Lot Block
Tract
Street
Address
Job Address 1921 W. Ramsey St.

Building Information

Type of Work: New ○ Addition ○ Alteration ○

Foundation: Wood / Concrete
Exterior Wall: Concrete / Wood
Roof: Composition / Tile / Metal / Other

Special Conditions

Occupancy Group
Construction Type
Fire Sprinklers
No. of Stories
No. of Units
Bedrooms
Garage
Carport
Fireplaces
Patio
Pool
Spa
Other

1st Fl. sq. ft.
2nd Fl. sq. ft.
Garage sq. ft.
Patio sq. ft.
Other sq. ft.
Contract Price $
Total

Est. Valuation $ 2800
Building Permit Fee
Plan Check Fee
Total Fee

PLUMBING FEES

Contractor Name

| No. | Items | Amount |
|---|---|---|
| | Fixtures Trap | |
| | Bldg/Trailer Sewer | |
| | Basement Drain | |
| | Pvt. Sewage System | |
| | Water Heaters/Vents | |
| | Ind. Waste Interceptor | |
| | Water System | |
| | Spr/Alt/Drainage Piping | |
| | Lawn Sprinkler System | |
| | Atmospheric Vacuum Breakers | |
| | Backflow Prevention Dev. | |
| | Gas Piping System | |
| | Misc. Insp. | |
| | Plan Check Fee | |
| | Permit Fee | |
| | TOTAL FEE | |

ELECTRICAL FEES

Contractor Name

| No. | Items | Amount |
|---|---|---|
| | Residential Fire Sprinkler | |
| | PVT. Pools | |
| | Commercial/Ground | |
| | Temp. Power Service | |
| | Recreational Vehicles | |
| | Lighting Fixtures | |
| | Res. Appliances | |
| | Pole Mounted Signs | |
| | Power Apparatus | |
| | Busways | |
| | Signs/Outlining | |
| 1 | Services 400 Amps | 60.00 |
| | Misc. Apparatus | |
| | Wiring @ Sq. Ft. | |
| | Plan Check Fee | |
| | Permit Fee | 2.50 |
| | TOTAL | 62.50 |

MECHANICAL

Contractor Name

| No. | Items | Amount |
|---|---|---|
| | Res. Air Cond. | |
| | Res. Heating | |
| | Misc. Mech. Equip. | |
| | Misc. Mech. Insp. | |
| | Plan Check Fee | |
| | Permit Fee | |
| | TOTAL FEE | |

MISC. PERMITS

| | |
|---|---|
| Code Compliance | |
| Re-Inspection Fee | |
| Plan Review Fee | |
| HVAC Installation | |
| HVAC Accessory | |
| Misc. Bldg. Fee | |
| Abatement Insp. | |
| Demolition | |
| Special Inspection | |
| CAC Title 24 Plan Review | |

TOTAL FEE

GRADING PERMITS

Contractor Name

| No. | Items | Amount |
|---|---|---|
| | Grading Permit | |
| | Grading Plan Review | |
| | Plan Revision Review | |
| | TOTAL FEE | |

| | Amount |
|---|---|
| On Site Inspection | |
| Construction | |
| Plan Check | |
| Plumbing | |
| Electrical | 62.50 |
| Mechanical | |
| Gen. Plan Check | |
| Grading Permit Fee | |
| Mobile Home Fee | |
| Misc. Bldg. Fee | |
| Code Compliance | |
| Const. Recharge | |
| Plan Storage Fee | 1.55 |
| Dwelling Unit Fee | |
| Fire Dept. Insp. | |
| Fire Dept. Plan Check | |
| TOTAL FEE | 64.05 |

WHITE: Building Department YELLOW: Assessor's Office PINK: File Copy GOLD: Applicant's Copy

# City of Banning

Engineering Department

## Street Improvement Permit

No 329

July 7 1954

Permission is hereby granted the undersigned to make the following improvements within a public right of way:

Owner's Name [illegible]

Address [illegible]

Location of Improvements: Lot _____ Block _____

Tract _____

Street Address [illegible]

### TYPE OF IMPROVEMENT

| | | |
|---|---|---|
| Curbs & Gutters | ☒ | ☐ |
| Sidewalks | ☐ | ☒ |
| Driveways | ☐ | ☐ |
| Temporary Driveway | ☐ | ☐ |
| Other | ☐ | ☐ |

Total Linear feet of grades to be established by the City Engineer's Office _____ $7.50

Minimum Charge (60 feet) _____ $ _____

_____ feet at 3c per foot _____ $1.50

Permit Fee _____ TOTAL FEES $ _____

_____ (Owner)

By _____

This permit is granted for the above described improvements which are to be installed and/or constructed in accordance with the rules and regulations of Ordinance No. 388 of the City of Banning and amendments thereto and with all other applicable laws and ordinances.

_____ Official

By _____

# City of Banning, California

BUILDING DEPARTMENT

No. 7586

## BUILDING PERMIT

For

$

By

Permission is hereby granted

Address of Permittee

To

Lot Block Tract

Location Address

Value of Building or Improvements $ Area 1st Floor (Square feet) No. Stories

Contractor Address

This permit is based upon certain plans and specifications of said work and written application duly filed in this office, all of which are hereby referred to and made a part hereof and are subject to all the rules and regulations of the Banning Ordinance Code, and all amendments thereto.

Building Inspector

Sec.

Group

Division

Type

Use Zone

Fire Zone

City of Banning

**BUILDING DEPARTMENT**

**PLUMBING PERMIT**

**No 6282**

Permission is hereby granted [illegible] (Owner) (Contractor) to install plumbing at [illegible] (Address) as follows: A. W. WHITAKER

| | Quantity | | Fee |
|---|---|---|---|
| Plumbing Fixtures or Trap (including Water and Drainage Piping) | | | |
| Bath Tubs | PAID | | |
| Laundry Trays | | | |
| Lavatories | MAR 15 1954 | | |
| Sinks | | | |
| Showers | | | |
| Water Closets | CITY OF BANNING | | |
| Others: | BUILDING DEPARTMENT | | |
| TOTAL FIXTURES | | @ $ .50 | |
| Water Piping and or Water Treating Equipment | | @ 1.00 | |
| House Sewers | 1 | @ 1.00 | 1 00 |
| Cesspools ( ) Septic Tanks ( ) | | @ 2.00 | |
| Water Heaters and or Vents | | @ 1.00 | |
| Gas Piping of 1 to 5 Outlets | Flat Fee | @ 1.00 | |
| Gas Piping System of 6 Outlets or more, per outlet | | @ .20 | |
| Drainage or Vent Piping (Rep. or Alter.) | | @ 1.00 | |
| Vacuum breakers or back-flow protective devices (after equip. served is installed) (1 to 5) | Flat Fee | 1 1.00 | |
| (6 or more) each | | @ .20 | |
| Fee Issuing Each Permit | | | 1 00 |
| TOTAL | | | 2 00 |

This permit is subject to all rules and regulations set forth in Ordinance No. 302 of the City of Banning and amendments thereto and all other applicable laws.

W. E. ARNOLD

Plumbing Official

By [illegible]

City of Banning

**BUILDING DEPARTMENT**

# PLUMBING PERMIT

**No. 5774**

Permission is hereby granted _____ (Owner) _____ (Contractor) to install plumbing at _____ (Address) as follows:

| | Quantity | | Per |
|---|---|---|---|
| Plumbing Fixtures or Trap (including Water and Drainage Piping) | | | |
| Bath Tubs | 1 | | Do Not Write In This Space |
| Laundry Trays | | | |
| Lavatories | 1 | | |
| Sinks | 1 | | |
| Showers | | | |
| Water Closets | 1 | | |
| Others: | | | |
| TOTAL FIXTURES | | cts. $ .100 | 1 00 |
| Water Piping and or Water Treating Equipment | | cts. 1.00 | |
| House Sewers | | cts. 1.00 | |
| Cesspools ( ) Septic Tanks ( ) | | $ 2.00 | |
| Water Heaters and or Vents | | $ 1.00 | |
| Gas Piping of 1 to 5 Outlets | Flat Per | $ 1.00 | 1 |
| Gas Piping System of 6 Outlets or more, per outlet | | $ .50 | |
| Drainage or Vent Piping (Rep. or Alter.) | | $ 1.00 | |
| Vacuum breakers or back-flow protective devices (after equip. served is installed) (1 to 5) | Flat Per | $ 1.00 | |
| (6 or more) each | | $ .50 | |
| For Issuing Each Permit | | | 1 00 |
| TOTAL | | | |

This permit is subject to all rules and regulations set forth in Ordinance No. 272 of the City of Banning and amendments thereto, and all other applicable laws.

Plumbing Official

By

For

# City of Banning, California

BUILDING DEPARTMENT

No. 7925

## BUILDING PERMIT

By

Permission is hereby granted

Address of Permittee

To

Lot Block Tract

Location Address

Value of Building or improvements

Area 1st Floor (Square feet) No. Stories

Contractor Address

This permit is based upon certain plans and specifications of said work and written application duly filed in this office, all of which are hereby referred to and made part hereof and are subject to all the rules and regulations of the Banning Ord[illegible] Code and all [illegible]

Building Inspector

Sheet No.

Group

Occupancy

Type

Fire Zone

City of Banning
BUILDING DEPARTMENT
**ELECTRICAL PERMIT**

№ 5455

Jan 9 1959

PERMISSION IS HEREBY GRANTED [illegible] (Owner)

[illegible] (Contractor) TO INSTALL

ELECTRICAL INSTALLATIONS AT [illegible] (Address)

| AS FOLLOWS: | Number | Unit Fee | New Total |
|---|---|---|---|
| LIGHTS | 11 | $ .05 | .55 |
| SWITCHES | 14 | .05 | [illegible] |
| CONVENIENCE OUTLETS | 14 | .05 | [illegible] |
| FIXTURES | 11 | .05 | [illegible] |
| HEATERS | | .25 | |
| RANGES | | .25 | |
| SIGN TRANSFORMERS | | | |
| MOTORS H.P. | | | |
| MOTORS H.P. | | | |
| MOTORS H.P. | | | |
| OTHER | | | |
| FIXTURE FEE (8.00) | | | |
| ISSUING FEE | | | 1.00 |
| TOTAL FEES PAID | | | $ [illegible] |

PAID
JAN 9 1959
CITY OF BANNING
BUILDING DEPARTMENT

ISSUED BY _____ 19 [illegible]

BY [illegible]

Chief Electrical Inspector

INSTALLATION APPROVED _____ 19 __

BY _____

Chief Electrical Inspector

Department of Toxic Substances Control

[illegible]
8800 Cal Center Drive
Sacramento, California 95826-3200

Gavin Newsom
Governor

August 8, 2022

Sabrina Chantler
Terracon
Sabrina.Chantler@terracon.com

**Public Records Request Number: 1-080522-03**
**Location(s): 1431 and 1219 West Lincoln Street, Banning, CA 92220**

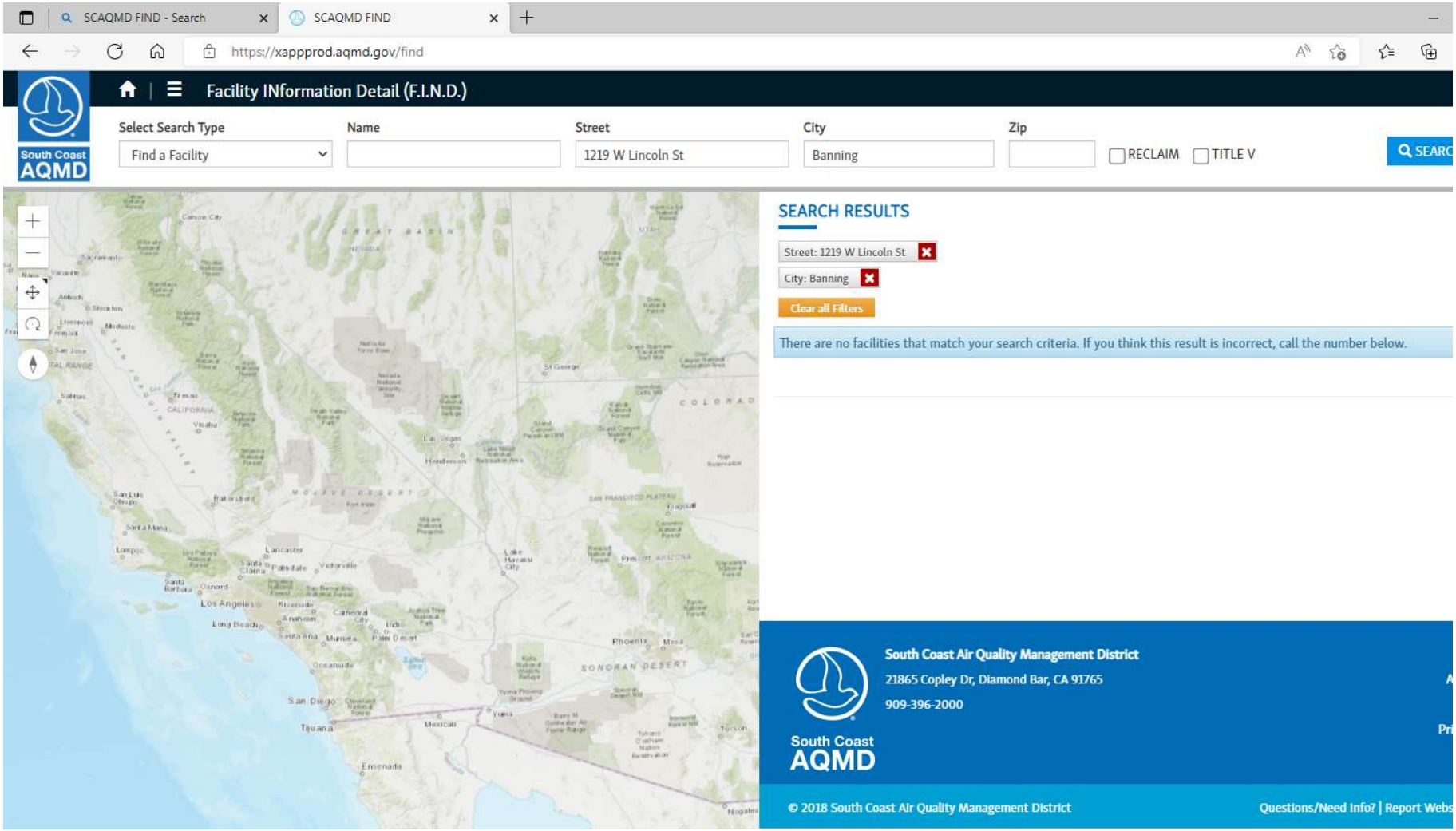
Dear Requestor:

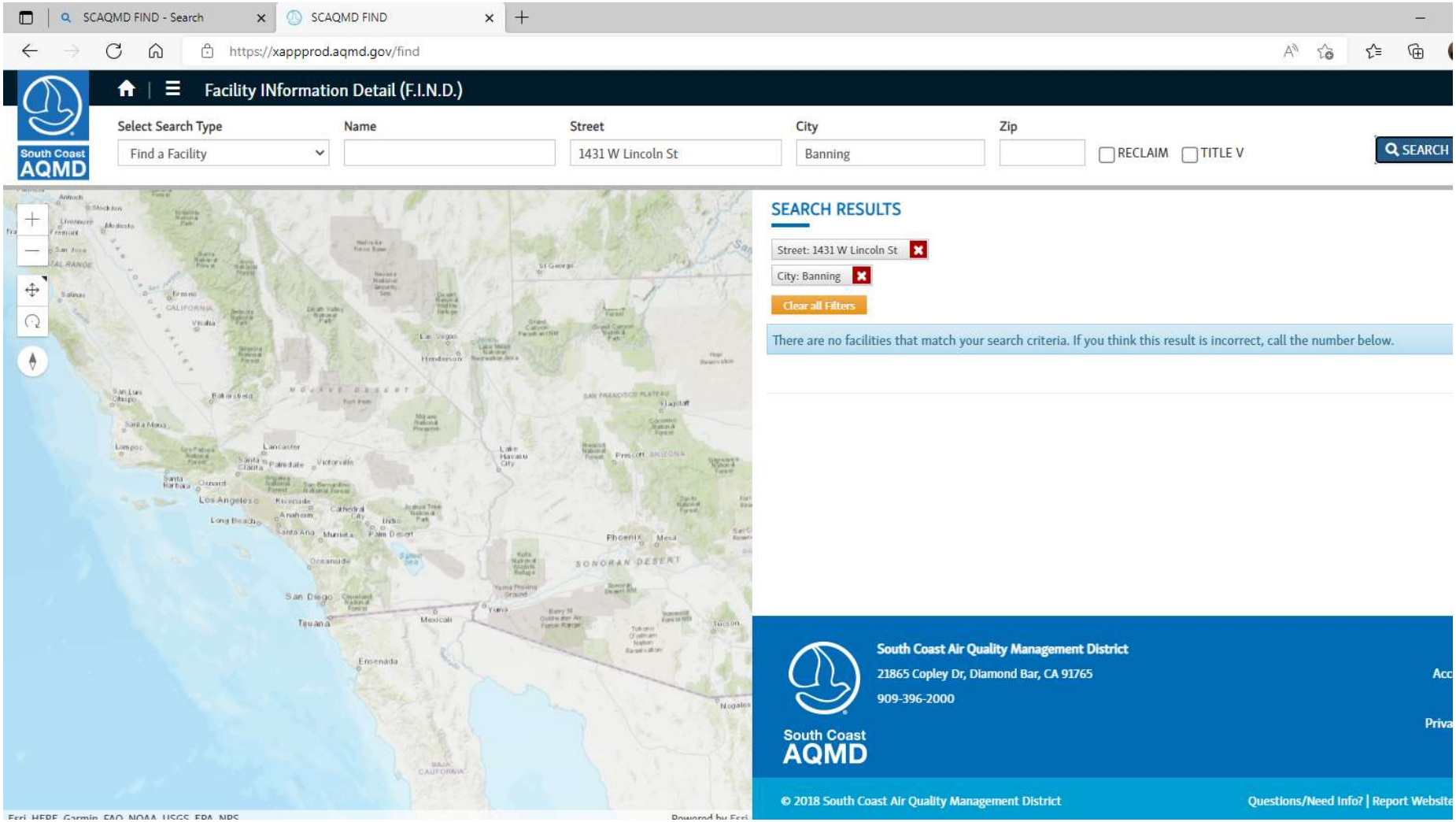
On August 5, 2022, the Department of Toxic Substances Control (DTSC) received your email of August 5, 2022 requesting records under the Public Records Act. After a thorough review of our files, no site records were found pertaining to the sites/facilities referenced above.

A large number of our records are available on EnviroStor, an online database that provides non-confidential, public access to DTSCs data management system. It tracks our cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known or suspected contamination issues. EnviroStor is available 24/7, 365 days a year. The data reflects the latest updates as they are entered in the system. Access it from your computer or smartphone, the local library – anywhere Internet access is available. Just go to www.envirostor.dtsc.ca.gov. You'll find a step-by-step tour of EnviroStor under the "How to Use EnviroStor" menu on the website.

If you have any questions or would like further information regarding your request, please contact me at 916-255-3611 or via email at PubReqAct@dtsc.ca.gov.

Sincerely,
*Tee Xiong*
Tee Xiong
Regional Records Coordinator


SCAQMD FIND - Search
SCAQMD FIND
https://xappprod.aqmd.gov/find
Facility INformation Detail (F.I.N.D.)
South Coast AQMD
Select Search Type
Find a Facility
Name
Street
1219 W Lincoln St
City
Banning
Zip
RECLAIM
TITLE V
SEARC
SEARCH RESULTS
Street: 1219 W Lincoln St
City: Banning
Clear all Filters
There are no facilities that match your search criteria. If you think this result is incorrect, call the number below.
South Coast Air Quality Management District
21865 Copley Dr, Diamond Bar, CA 91765
909-396-2000
South Coast AQMD
© 2018 South Coast Air Quality Management District
Questions/Need Info? | Report Webs


SCAQMD FIND - Search
SCAQMD FIND
https://xappprod.aqmd.gov/find
Facility INformation Detail (F.I.N.D.)
South Coast AQMD
Select Search Type
Find a Facility
Name
Street
1431 W Lincoln St
City
Banning
Zip
RECLAIM
TITLE V
SEARCH
SEARCH RESULTS
Street: 1431 W Lincoln St
City: Banning
Clear all Filters
There are no facilities that match your search criteria. If you think this result is incorrect, call the number below.
South Coast Air Quality Management District
21865 Copley Dr, Diamond Bar, CA 91765
909-396-2000
South Coast AQMD
© 2018 South Coast Air Quality Management District
Questions/Need Info? | Report Website

## Hedman, Laura S

**From:** Chantler, Sabrina
**Sent:** Friday, August 26, 2022 8:31 AM
**To:** Hedman, Laura S
**Subject:** FW: SCAQMD Public Records Request# 1414362, -- Completion Letter

---

**From:** mcard@aqmd.gov <mcard@aqmd.gov>
**Sent:** Thursday, August 11, 2022 11:59 AM
**To:** Chantler, Sabrina <Sabrina.Chantler@terracon.com>
**Cc:** ob_pr_support_docs@aqmd.gov
**Subject:** SCAQMD Public Records Request# 1414362, -- Completion Letter




Sabrina.chantler

Sabrina.chantler

,

**Ref:** Request for Records; Control No. **1414362**, Received 8/5/2022

**RE:** P/O'S, EQL'S, NOV'S & ASBESTOS/SOIL NOTIF FOR 1431 & 1219 W LINC0LN ST, BANNING, CA, FROM 8/3/1922-8/5/2022.

After a thorough search of this agency's records:

NO REQUESTED RECORDS WERE FOUND FOR THE ABOVE REFERENCED FACILITY OR FACILITY SITE.

Should you have any questions or need additional information, please do not hesitate to contact me at (909) 396-3700, Tuesday through Friday, between the hours of **8:00 a.m.** and **4:30 p.m.**

Sincerely,

Michelle Card

For Colleen Paine

Public Records Coordinator
Information Management

County of Riverside

# DEPARTMENT OF ENVIRONMENTAL HEALTH

JEFF JOHNSON, DIRECTOR

## RELEASE OF RECORDS RESPONSE

**August 12, 2022**

**Service Request No: 55485**

**Terracon**
**Attn: Sabrina Chantler**
**1355 E Cooley Drive**
**Colton, CA 92324**

Our office has completed the research regarding your Hazardous Materials Management records request.

**NO RECORDS WERE FOUND FOR THE FOLLOWING SITE ADDRESS:**

**1431, 1219 West Lincoln Street, Banning**

We have closed this service request.

Thank you and have a great day.

Please feel free to use the following contact information to reach out to us with any questions:

Riverside County Department of Environmental Health
Hazardous Materials Management Division
4065 County Circle Dr., Rm. 104
Riverside, CA 92503
Telephone: 951-358-5055 Fax: 951-358-5017

Additional information can be found on our website at **www.rivcoeh.org**

## Hedman, Laura S

**From:** Chantler, Sabrina
**Sent:** Friday, August 26, 2022 8:31 AM
**To:** Hedman, Laura S
**Subject:** FW: LA227292 PRR

---

**From:** WB-RB8-FileReview8 <FileReview8@waterboards.ca.gov>
**Sent:** Monday, August 15, 2022 8:59 AM
**To:** Chantler, Sabrina <Sabrina.Chantler@terracon.com>
**Subject:** RE: LA227292 PRR

Good morning,

After careful review of our records, we show we have no files for the following site(s):
**1431 and 1219 West Lincoln Street, Banning, Riverside County, California 92220**

If we can be of further assistance, please do not hesitate to contact us again.

Thank you,
File Review Desk
3737 Main St. Suite 500
Riverside, CA 92501

---

**From:** Chantler, Sabrina <Sabrina.Chantler@terracon.com>
**Sent:** Friday, August 5, 2022 9:30 AM
**To:** WB-RB8-FileReview8 <FileReview8@waterboards.ca.gov>
**Subject:** LA227292 PRR

EXTERNAL:

Terracon has been contracted to perform an environmental site assessment of the above-mentioned property on Records Request:
1431 and 1219 West Lincoln Street, Banning, Riverside County, California 92220 We would like to review environmental information (i.e. hazardous material responses/ inventory, records of soil and water contamination, LUST/UST, any permits or certificate of occupancies that may be on-file from the Building or Planning Divisions, etc.) that your office may have on file for the property.

Electronic responses are preferable. If electronic responses are not possible and the files are relatively small, please copy and Terracon will pay for copying costs. If there is too much information to copy/send, please call me to schedule a time that I may review this information. I can be reached at (909) 301-6046 or by e-mail at sabrina.chantler@terracon.com. Thank you for your time. If you have any questions, please feel free to contact me.

Sincerely,
Sabrina Chantler
Assistant Geologist

Sabrina H Chantler
**Assistant Geologist I Environmental Services**

1355 E. Cooley Drive I Colton, CA 92324
D (909) 301-6046 I M (951) 675-5719
sabrina.chantler@terracon.com I Terracon.com

***Our Los Angeles office is now open! Learn More >***

Terracon provides environmental, facilities, geotechnical, and materials consulting engineering services delivered with responsiveness, resourcefulness, and reliability.

---

*Private and confidential as detailed here (www.terracon.com/disclaimer). If you cannot access the hyperlink, please e-mail sender.*

# APPENDIX D
# ENVIRONMENTAL DATABASE INFORMATION

Banning Industrial

1219 and 1431 West Lincoln Street
Banning, Riverside County, California 92220

Inquiry Number: 7078092.2s
August 05, 2022

# The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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**GEOCHECK ADDENDUM**

| | |
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| Physical Setting Source Summary | A-2 |
| Physical Setting SSURGO Soil Map | A-5 |
| Physical Setting Source Map | A-12 |
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| Physical Setting Source Records Searched | PSGR-1 |


***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.


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# EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR).
The results of this search follow:

**TARGET PROPERTY ADDRESS**

BANNING INDUSTRIAL
1431 AND 1219 WEST LINCOLN STREET
BANNING, CA 92220
Elevation: 2396 ft.
EDR Inquiry Number: 7078092.2s

**TARGET PROPERTY SEARCH RESULTS**

Site

Map ID
Direction
Distance
Distance ft.
Elevation ft.

**STANDARD ENVIRONMENTAL RECORDS**

**ADDITIONAL ENVIRONMENTAL RECORDS**

| Site | Map ID | Direction | Distance | Distance ft. | Elevation ft. | NPL | Proposed NPL | NPL LIENS | Delisted NPL | FEDERAL FACILITY | SEMS | SEMS-ARCHIVE | CORRACTS | RCRA-TSDF | RCRA-LQG | RCRA-SQG | RCRA-VSQG | LUCIS | US ENG CONTROLS | US INST CONTROLS | ERNS | RESPONSE | ENVIROSTOR | SWF/LF | LUST | INDIAN LUST | CPS-SLIC | FEMA UST | UST | AST | INDIAN UST | INDIAN VCP | VCP | BROWNFIELDS | US BROWNFIELDS | WMUDS/SWAT | SWRCY | HAULERS | INDIAN ODI | ODI | DEBRIS REGION 9 | IHS OPEN DUMPS | US HIST CDL | HIST Cal-Sites | SCH | CDL | Toxic Pits | CERS HAZ WASTE | US CDL | AQUEOUS FOAM | PFAS | SWEEPS UST | HIST UST | CA FID UST | CERS TANKS | LIENS | LIENS 2 | DEED | HMIRS | CHMIRS | LDS | MCS | SPILLS 90 | RCRA NonGen / NLR | FUDS | DOD | SCRD DRYCLEANERS | US FIN ASSUR | EPA WATCH LIST | 2020 COR ACTION | TSCA | TRIS | SSTS | ROD | RMP | RAATS | PRP | PADS | ICIS | FTTS | MLTS | COAL ASH DOE | COAL ASH EPA | PCB TRANSFORMER | RADINFO | HIST FTTS | DOT OPS | CONSENT | INDIAN RESERV | FUSRAP | UMTRA | LEAD SMELTERS | US AIRS | US MINES | ABANDONED MINES | FINDS | DOCKET HWC | ECHO | UXO | FUELS PROGRAM | CA BOND EXP. PLAN | Cortese | CUPA Listings | DRYCLEANERS | EMI |
|---|---|---

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1431 AND 1219 WEST LINCOLN STREET
BANNING, CA 92220
Elevation: 2396 ft.
EDR Inquiry Number: 7078092.2s

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Elevation: 2396 ft.
EDR Inquiry Number: 7078092.2s

**STANDARD ENVIRONMENTAL RECORDS**

**ADDITIONAL ENVIRONMENTAL RECORDS**

| **SURROUNDING PROPERTY SEARCH RESULTS** Site | Map ID Direction Distance Distance ft. Elevation ft. | NPL | Proposed NPL | NPL LIENS | Delisted NPL | FEDERAL FACILITY | SEMS | SEMS-ARCHIVE | CORRACTS | RCRA-TSDF | RCRA-LQG | RCRA-SQG | RCRA-VSQG | LUCIS | US ENG CONTROLS | US INST CONTROLS | ERNS | RESPONSE | ENVIROSTOR | SWF/LF | LUST | INDIAN LUST | CPS-SLIC | FEMA UST | UST | AST | INDIAN UST | INDIAN VCP | VCP | BROWNFIELDS | US BROWNFIELDS | WMUDS/SWAT | SWRCY | HAULERS | INDIAN ODI | ODI | DEBRIS REGION 9 | IHS OPEN DUMPS | US HIST CDL | HIST Cal-Sites | SCH | CDL | Toxic Pits | CERS HAZ WASTE | US CDL | AQUEOUS FOAM | PFAS | SWEEPS UST | HIST UST | CA FID UST | CERS TANKS | LIENS | LIENS 2 | DEED | HMIRS | CHMIRS | LDS | MCS | SPILLS 90 | RCRA NonGen / NLR | FUDS | DOD | SCRD DRYCLEANERS | US FIN ASSUR | EPA WATCH LIST | 2020 COR ACTION | TSCA | TRIS | SSTS | ROD | RMP | RAATS | PRP | PADS | ICIS | FTTS | MLTS | COAL ASH DOE | COAL ASH EPA | PCB TRANSFORMER | RADINFO | HIST FTTS | DOT OPS | CONSENT | INDIAN RESERV | FUSRAP | UMTRA | LEAD SMELTERS | US AIRS | US MINES | ABANDONED MINES | FINDS | DOCKET HWC | ECHO | UXO | FUELS PROGRAM | CA BOND EXP. PLAN | Cortese | CUPA Listings | DRYCLEANERS | EMI |
|---|---|---

# EXECUTIVE SUMMARY

**TARGET PROPERTY ADDRESS**

BANNING INDUSTRIAL
1431 AND 1219 WEST LINCOLN STREET
BANNING, CA 92220
Elevation: 2396 ft.
EDR Inquiry Number: 7078092.2s

**STANDARD ENVIRONMENTAL RECORDS**

**ADDITIONAL ENVIRONMENTAL RECORDS**

| **SURROUNDING PROPERTY SEARCH RESULTS** Site | Map ID Direction Distance Distance ft. Elevation ft. | NPL | Proposed NPL | NPL LIENS | Delisted NPL | FEDERAL FACILITY | SEMS | SEMS-ARCHIVE | CORRACTS | RCRA-TSDF | RCRA-LQG | RCRA-SQG | RCRA-VSQG | LUCIS | US ENG CONTROLS | US INST CONTROLS | ERNS | RESPONSE | ENVIROSTOR | SWF/LF | LUST | INDIAN LUST | CPS-SLIC | FEMA UST | UST | AST | INDIAN UST | INDIAN VCP | VCP | BROWNFIELDS | US BROWNFIELDS | WMUDS/SWAT | SWRCY | HAULERS | INDIAN ODI | ODI | DEBRIS REGION 9 | IHS OPEN DUMPS | US HIST CDL | HIST Cal-Sites | SCH | CDL | Toxic Pits | CERS HAZ WASTE | US CDL | AQUEOUS FOAM | PFAS | SWEEPS UST | HIST UST | CA FID UST | CERS TANKS | LIENS | LIENS 2 | DEED | HMIRS | CHMIRS | LDS | MCS | SPILLS 90 | RCRA NonGen / NLR | FUDS | DOD | SCRD DRYCLEANERS | US FIN ASSUR | EPA WATCH LIST | 2020 COR ACTION | TSCA | TRIS | SSTS | ROD | RMP | RAATS | PRP | PADS | ICIS | FTTS | MLTS | COAL ASH DOE | COAL ASH EPA | PCB TRANSFORMER | RADINFO | HIST FTTS | DOT OPS | CONSENT | INDIAN RESERV | FUSRAP | UMTRA | LEAD SMELTERS | US AIRS | US MINES | ABANDONED MINES | FINDS | DOCKET HWC | ECHO | UXO | FUELS PROGRAM | CA BOND EXP. PLAN | Cortese | CUPA Listings | DRYCLEANERS | EMI |
|---|---|---

# EXECUTIVE SUMMARY

**TARGET PROPERTY ADDRESS**

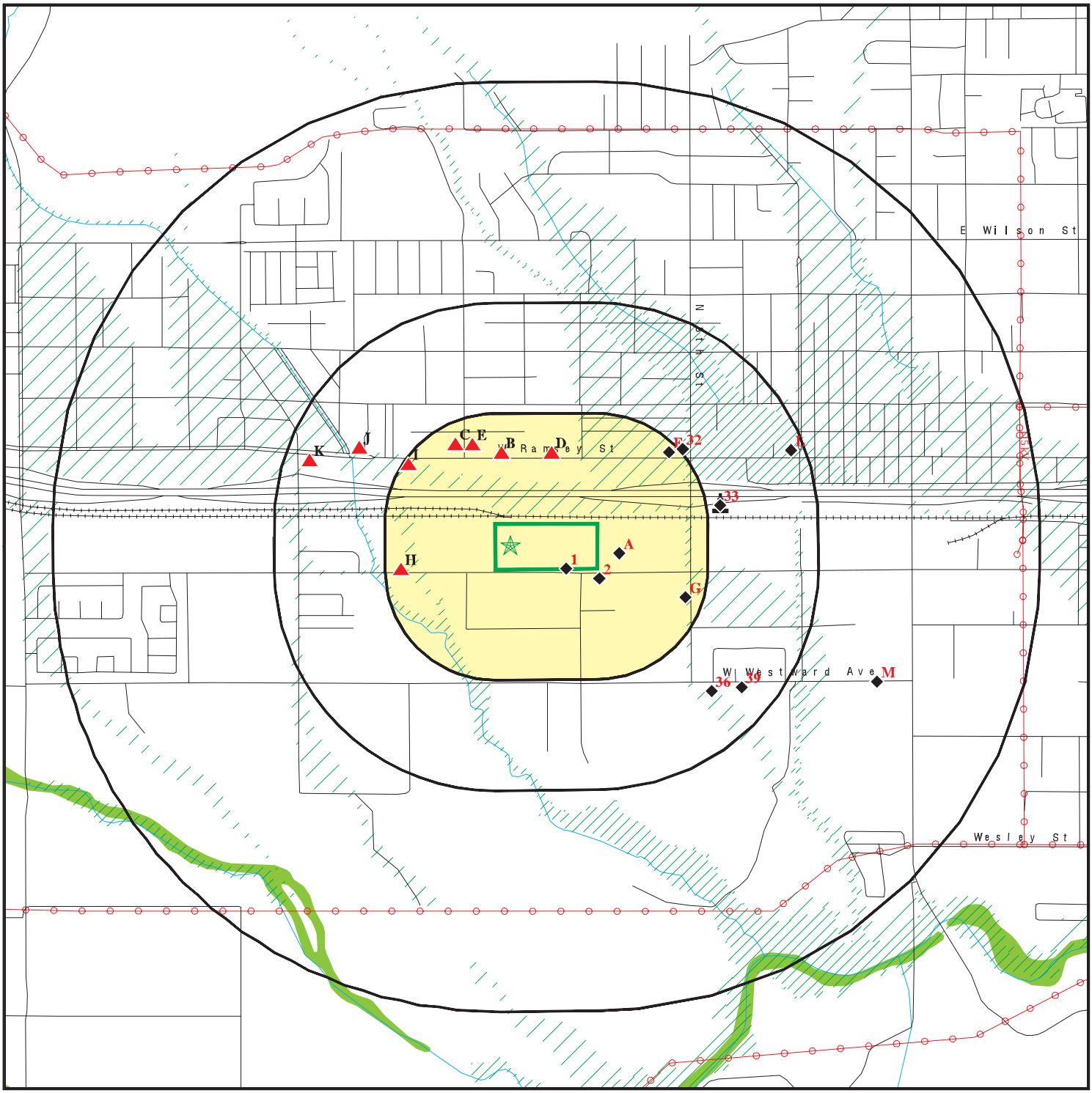
BANNING INDUSTRIAL
1431 AND 1219 WEST LINCOLN STREET
BANNING, CA 92220
Elevation: 2396 ft.
EDR Inquiry Number: 7078092.2s

**STANDARD ENVIRONMENTAL RECORDS**

**ADDITIONAL ENVIRONMENTAL RECORDS**

| SURROUNDING PROPERTY SEARCH RESULTS<br>Site | Map ID<br>Direction<br>Distance<br>Distance ft.<br>Elevation ft. | NPL | Proposed NPL | NPL LIENS | Delisted NPL | FEDERAL FACILITY | SEMS | SEMS-ARCHIVE | CORRACTS | RCRA-TSDF | RCRA-LQG | RCRA-SQG | RCRA-VSQG | LUCIS | US ENG CONTROLS | US INST CONTROLS | ERNS | RESPONSE | ENVIROSTOR | SWF/LF | LUST | INDIAN LUST | CPS-SLIC | FEMA UST | UST | AST | INDIAN UST | INDIAN VCP | VCP | BROWNFIELDS | US BROWNFIELDS | WMUDS/SWAT | SWRCY | HAULERS | INDIAN ODI | ODI | DEBRIS REGION 9 | IHS OPEN DUMPS | US HIST CDL | HIST Cal-Sites | SCH | CDL | Toxic Pits | CERS HAZ WASTE | US CDL | AQUEOUS FOAM | PFAS | SWEEPS UST | HIST UST | CA FID UST | CERS TANKS | LIENS | LIENS 2 | DEED | HMIRS | CHMIRS | LDS | MCS | SPILLS 90 | RCRA NonGen / NLR | FUDS | DOD | SCRD DRYCLEANERS | US FIN ASSUR | EPA WATCH LIST | 2020 COR ACTION | TSCA | TRIS | SSTS | ROD | RMP | RAATS | PRP | PADS | ICIS | FTTS | MLTS | COAL ASH DOE | COAL ASH EPA | PCB TRANSFORMER | RADINFO | HIST FTTS | DOT OPS | CONSENT | INDIAN RESERV | FUSRAP | UMTRA | LEAD SMELTERS | US AIRS | US MINES | ABANDONED MINES | FINDS | DOCKET HWC | ECHO | UXO | FUELS PROGRAM | CA BOND EXP. PLAN | Cortese | CUPA Listings | DRYCLEANERS | EMI |
|---|---|---

# OVERVIEW MAP - 7078092.2S




Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

| | | | |
|---|---|---|---|
| SITE NAME: | Banning Industrial | CLIENT: | Terracon |
| ADDRESS: | 1431 and 1219 West Lincoln Street<br>Banning CA 92220 | CONTACT: | Sabrina Chantler |
| LAT/LONG: | 33.922496 / 116.892525 | INQUIRY #: | 7078092.2s |
| | | DATE: | August 05, 2022 12:30 pm |

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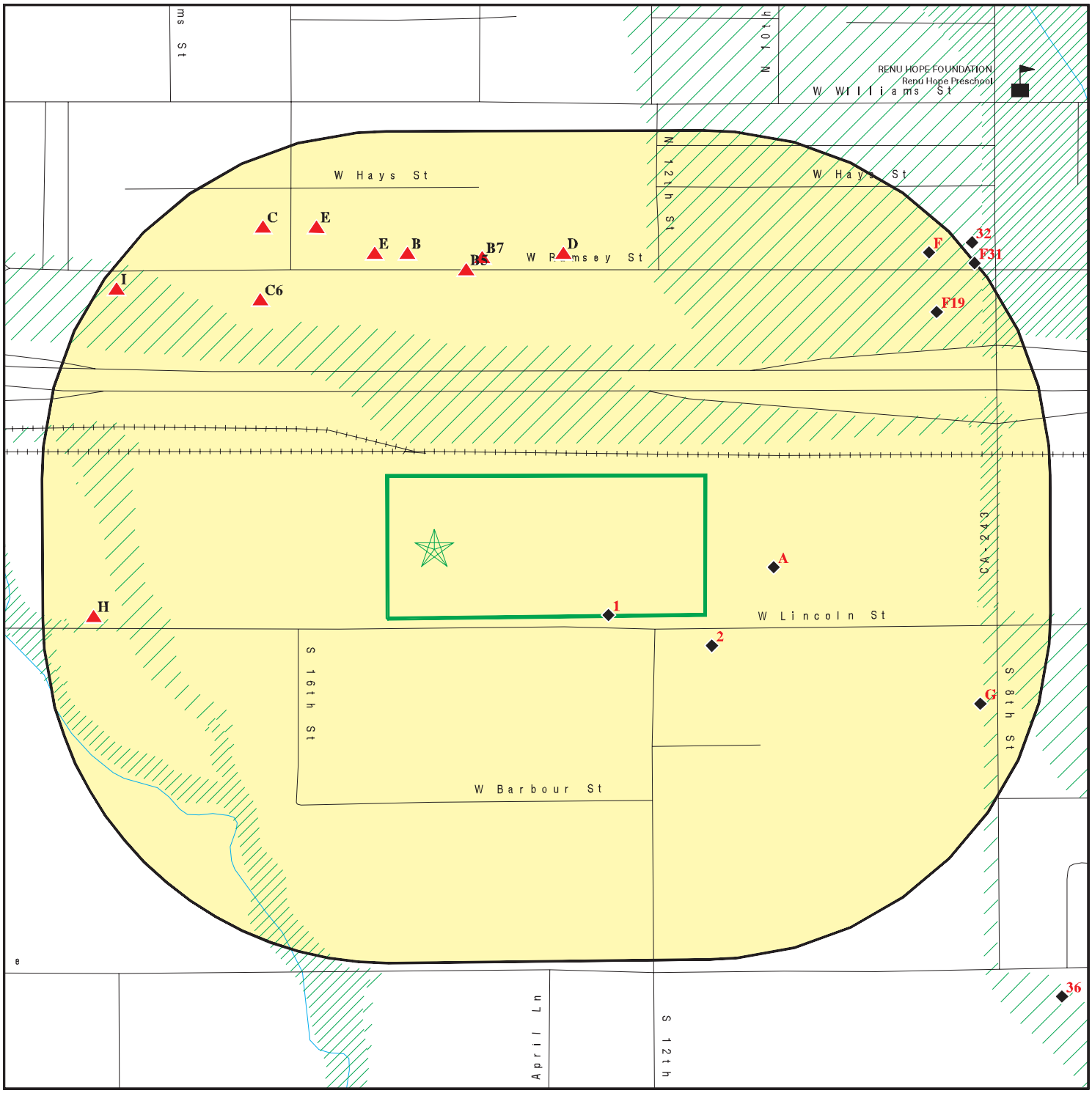
# DETAIL MAP - 7078092.2S




Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

| | | | |
|---|---|---|---|
| SITE NAME: | Banning Industrial | CLIENT: | Terracon |
| ADDRESS: | 1431 and 1219 West Lincoln Street<br>Banning CA 92220 | CONTACT: | Sabrina Chantler |
| LAT/LONG: | 33.922496 / 116.892525 | INQUIRY #: | 7078092.2s |
| | | DATE: | August 05, 2022 12:31 pm |

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# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| **STANDARD ENVIRONMENTAL RECORDS** | | | | | | | | |
| ***Lists of Federal NPL (Superfund) sites*** | | | | | | | | |
| NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Proposed NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| NPL LIENS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***Lists of Federal Delisted NPL sites*** | | | | | | | | |
| Delisted NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***Lists of Federal sites subject to CERCLA removals and CERCLA orders*** | | | | | | | | |
| FEDERAL FACILITY | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| SEMS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Lists of Federal CERCLA sites with NFRAP*** | | | | | | | | |
| SEMS-ARCHIVE | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Lists of Federal RCRA facilities undergoing Corrective Action*** | | | | | | | | |
| CORRACTS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***Lists of Federal RCRA TSD facilities*** | | | | | | | | |
| RCRA-TSDF | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Lists of Federal RCRA generators*** | | | | | | | | |
| RCRA-LQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| RCRA-SQG | 0.250 | | 0 | 3 | NR | NR | NR | 3 |
| RCRA-VSQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ***Federal institutional controls / engineering controls registries*** | | | | | | | | |
| LUCIS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US ENG CONTROLS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US INST CONTROLS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal ERNS list*** | | | | | | | | |
| ERNS | TP | | NR | NR | NR | NR | NR | 0 |
| ***Lists of state- and tribal (Superfund) equivalent sites*** | | | | | | | | |
| RESPONSE | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***Lists of state- and tribal hazardous waste facilities*** | | | | | | | | |
| ENVIROSTOR | 1.000 | | 0 | 0 | 2 | 2 | NR | 4 |
| ***Lists of state and tribal landfills and solid waste disposal facilities*** | | | | | | | | |
| SWF/LF | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| ***Lists of state and tribal leaking storage tanks*** | | | | | | | | |
| LUST | 0.500 | | 0 | 5 | 9 | NR | NR | 14 |
| INDIAN LUST | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| CPS-SLIC | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Lists of state and tribal registered storage tanks*** | | | | | | | | |
| FEMA UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| AST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| INDIAN UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ***Lists of state and tribal voluntary cleanup sites*** | | | | | | | | |
| INDIAN VCP | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| VCP | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Lists of state and tribal brownfield sites*** | | | | | | | | |
| BROWNFIELDS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| **ADDITIONAL ENVIRONMENTAL RECORDS** | | | | | | | | |
| ***Local Brownfield lists*** | | | | | | | | |
| US BROWNFIELDS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Local Lists of Landfill / Solid Waste Disposal Sites*** | | | | | | | | |
| WMUDS/SWAT | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| SWRCY | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| HAULERS | TP | | NR | NR | NR | NR | NR | 0 |
| INDIAN ODI | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ODI | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| DEBRIS REGION 9 | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| IHS OPEN DUMPS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Local Lists of Hazardous waste / Contaminated Sites*** | | | | | | | | |
| US HIST CDL | TP | | NR | NR | NR | NR | NR | 0 |
| HIST Cal-Sites | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| SCH | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| CDL | TP | | NR | NR | NR | NR | NR | 0 |
| Toxic Pits | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| CERS HAZ WASTE | 0.250 | | 0 | 8 | NR | NR | NR | 8 |
| US CDL | TP | | NR | NR | NR | NR | NR | 0 |
| AQUEOUS FOAM | TP | | NR | NR | NR | NR | NR | 0 |
| PFAS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Local Lists of Registered Storage Tanks*** | | | | | | | | |
| SWEEPS UST | 0.250 | | 0 | 1 | NR | NR | NR | 1 |
| HIST UST | 0.250 | | 0 | 1 | NR | NR | NR | 1 |
| CA FID UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| CERS TANKS | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ***Local Land Records*** | | | | | | | | |
| LIENS | TP | | NR | NR | NR | NR | NR | 0 |
| LIENS 2 | TP | | NR | NR | NR | NR | NR | 0 |
| DEED | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Records of Emergency Release Reports*** | | | | | | | | |
| HMIRS | TP | | NR | NR | NR | NR | NR | 0 |
| CHMIRS | TP | | NR | NR | NR | NR | NR | 0 |
| LDS | TP | | NR | NR | NR | NR | NR | 0 |
| MCS | TP | | NR | NR | NR | NR | NR | 0 |
| SPILLS 90 | TP | | NR | NR | NR | NR | NR | 0 |
| ***Other Ascertainable Records*** | | | | | | | | |
| RCRA NonGen / NLR | 0.250 | | 4 | 12 | NR | NR | NR | 16 |
| FUDS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| DOD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| SCRD DRYCLEANERS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US FIN ASSUR | TP | | NR | NR | NR | NR | NR | 0 |
| EPA WATCH LIST | TP | | NR | NR | NR | NR | NR | 0 |
| 2020 COR ACTION | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| TSCA | TP | | NR | NR | NR | NR | NR | 0 |
| TRIS | TP | | NR | NR | NR | NR | NR | 0 |
| SSTS | TP | | NR | NR | NR | NR | NR | 0 |
| ROD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| RMP | TP | | NR | NR | NR | NR | NR | 0 |
| RAATS | TP | | NR | NR | NR | NR | NR | 0 |
| PRP | TP | | NR | NR | NR | NR | NR | 0 |
| PADS | TP | | NR | NR | NR | NR | NR | 0 |
| ICIS | TP | | NR | NR | NR | NR | NR | 0 |
| FTTS | TP | | NR | NR | NR | NR | NR | 0 |
| MLTS | TP | | NR | NR | NR | NR | NR | 0 |
| COAL ASH DOE | TP | | NR | NR | NR | NR | NR | 0 |
| COAL ASH EPA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| PCB TRANSFORMER | TP | | NR | NR | NR | NR | NR | 0 |
| RADINFO | TP | | NR | NR | NR | NR | NR | 0 |
| HIST FTTS | TP | | NR | NR | NR | NR | NR | 0 |
| DOT OPS | TP | | NR | NR | NR | NR | NR | 0 |
| CONSENT | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| INDIAN RESERV | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| FUSRAP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| UMTRA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| LEAD SMELTERS | TP | | NR | NR | NR | NR | NR | 0 |
| US AIRS | TP | | NR | NR | NR | NR | NR | 0 |
| US MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ABANDONED MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| FINDS | TP | | NR | NR | NR | NR | NR | 0 |
| DOCKET HWC | TP | | NR | NR | NR | NR | NR | 0 |
| ECHO | TP | | NR | NR | NR | NR | NR | 0 |
| UXO | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| FUELS PROGRAM | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| CA BOND EXP. PLAN | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Cortese | 0.500 | | 0 | 3 | 5 | NR | NR | 8 |
| CUPA Listings | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| DRYCLEANERS | 0.250 | | 0 | 1 | NR | NR | NR | 1 |
| EMI | TP | | NR | NR | NR | NR | NR | 0 |
| ENF | TP | | NR | NR | NR | NR | NR | 0 |
| Financial Assurance | TP | | NR | NR | NR | NR | NR | 0 |
| HAZNET | TP | | NR | NR | NR | NR | NR | 0 |
| ICE | TP | | NR | NR | NR | NR | NR | 0 |
| HIST CORTESE | 0.500 | | 0 | 2 | 5 | NR | NR | 7 |
| HWP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| HWT | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| MWMP | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| NPDES | TP | | NR | NR | NR | NR | NR | 0 |
| PEST LIC | TP | | NR | NR | NR | NR | NR | 0 |
| PROC | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| Notify 65 | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| UIC | TP | | NR | NR | NR | NR | NR | 0 |
| UIC GEO | TP | | NR | NR | NR | NR | NR | 0 |
| WASTEWATER PITS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| WDS | TP | | NR | NR | NR | NR | NR | 0 |
| WIP | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| MILITARY PRIV SITES | TP | | NR | NR | NR | NR | NR | 0 |
| PROJECT | TP | | NR | NR | NR | NR | NR | 0 |
| WDR | TP | | NR | NR | NR | NR | NR | 0 |
| CIWQS | TP | | NR | NR | NR | NR | NR | 0 |
| CERS | TP | | NR | NR | NR | NR | NR | 0 |
| NON-CASE INFO | TP | | NR | NR | NR | NR | NR | 0 |
| OTHER OIL GAS | TP | | NR | NR | NR | NR | NR | 0 |
| PROD WATER PONDS | TP | | NR | NR | NR | NR | NR | 0 |
| SAMPLING POINT | TP | | NR | NR | NR | NR | NR | 0 |
| WELL STIM PROJ | TP | | NR | NR | NR | NR | NR | 0 |
| MINES MRDS | TP | | NR | NR | NR | NR | NR | 0 |
| HWTS | TP | | NR | NR | NR | NR | NR | 0 |
| **EDR HIGH RISK HISTORICAL RECORDS** | | | | | | | | |
| ***EDR Exclusive Records*** | | | | | | | | |
| EDR MGP | 1.000 | | 0 | 0 | 1 | 0 | NR | 1 |
| EDR Hist Auto | 0.125 | | 0 | NR | NR | NR | NR | 0 |
| EDR Hist Cleaner | 0.125 | | 0 | NR | NR | NR | NR | 0 |
| **EDR RECOVERED GOVERNMENT ARCHIVES** | | | | | | | | |
| ***Exclusive Recovered Govt. Archives*** | | | | | | | | |
| RGA LF | TP | | NR | NR | NR | NR | NR | 0 |
| RGA LUST | TP | | NR | NR | NR | NR | NR | 0 |
| - Totals -- | | 0 | 4 | 36 | 22 | 2 | 0 | 64 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

**1** **POISON SPYDER CUSTOMS, INC.** **RCRA NonGen / NLR** **1025842687**
**1177 W LINCOLN ST STE 100** **CAC003022297**
**< 1/8** **BANNING, CA 92220**
**1 ft.**

**Relative: Lower**
**Actual: 2375 ft.**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 20190702 |
| Handler Name: | POISON SPYDER CUSTOMS, INC. | |
| Handler Address: | | 1177 W LINCOLN ST STE 100 |
| Handler City,State,Zip: | | BANNING, CA 92220 |
| EPA ID: | | CAC003022297 |
| Contact Name: | | DANIEL PERALES |
| Contact Address: | | 2360 BOSWELL RD |
| Contact City,State,Zip: | | CHULA VISTA, CA 91911 |
| Contact Telephone: | | 619-216-1444 |
| Contact Email: | | DPERALES@4WP.COM |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Active Site Indicator: | | Handler Activities |
| Mailing Address: | | 2360 BOSWELL RD |
| Mailing City,State,Zip: | | CHULA VISTA, CA 91911 |
| Owner Name: | POISON SPYDER TAP MANUFACTURING LLC | |
| Owner Type: | | Other |
| Operator Name: | DANIEL PERALES | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | Yes |
| Universal Waste Destination Facility: | | Yes |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |
| Institutional Control Indicator: | | No |
| Human Exposure Controls Indicator: | | N/A |
| Groundwater Controls Indicator: | | N/A |
| Significant Non-Complier Universe: | | No |
| Unaddressed Significant Non-Complier Universe: | | No |
| Addressed Significant Non-Complier Universe: | | No |
| Significant Non-Complier With a Compliance Schedule Universe: | | No |
| Handler Date of Last Change: | | 20190729 |

**POISON SPYDER CUSTOMS, INC. (Continued)** **1025842687**

| | |
|---|---|
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: | POISON SPYDER TAP MANUFACTURING LLC |
| Legal Status: | Other |
| Owner/Operator Address: | 2360 BOSWELL RD |
| Owner/Operator City,State,Zip: | CHULA VISTA, CA 91914 |
| Owner/Operator Telephone: | 619-216-1444 |

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: | DANIEL PERALES |
| Legal Status: | Other |
| Owner/Operator Address: | 2360 BOSWELL RD |
| Owner/Operator City,State,Zip: | CHULA VISTA, CA 91911 |
| Owner/Operator Telephone: | 619-216-1444 |

Historic Generators:

| | |
|---|---|
| Receive Date: | 20190702 |
| Handler Name: | POISON SPYDER CUSTOMS, INC. |
| Federal Waste Generator Description: | Not a generator, verified |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |

List of NAICS Codes and Descriptions:

| | |
|---|---|
| NAICS Code: | 332510 |
| NAICS Description: | HARDWARE MANUFACTURING |

Facility Has Received Notices of Violations:

| | |
|---|---|
| Violations: | No Violations Found |

Evaluation Action Summary:

| | |
|---|---|
| Evaluations: | No Evaluations Found |

**2**
**ESE**
**< 1/8**
**0.023 mi.**
**121 ft.**

**TOM MALLOY CORP DBA TRENCH SHORING**
**1184 W LINCOLN ST**
**BANNING, CA 92220**

**RCRA NonGen / NLR**

**1024817475**
**CAL000321742**

**Relative:**
**Lower**

**Actual:**
**2365 ft.**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 20070703 |
| Handler Name: | TOM MALLOY CORP DBA TRENCH SHORING | |
| Handler Address: | | 1184 W LINCOLN ST |
| Handler City,State,Zip: | | BANNING, CA 92220-4536 |
| EPA ID: | | CAL000321742 |
| Contact Name: | | KEVIN MALLOY |
| Contact Address: | | 636 E ROSECRANS AVE |
| Contact City,State,Zip: | | LOS ANGELES, CA 90059 |
| Contact Telephone: | | 310-327-5554 |
| Contact Fax: | | 000-000-0000 |
| Contact Email: | | KENGOT@TRENCHSHORING.COM |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Active Site Indicator: | | Handler Activities |
| Mailing Address: | | 636 E ROSECRANS AVE |
| Mailing City,State,Zip: | | LOS ANGELES, CA 90059-3507 |
| Owner Name: | THOMAS E MALLOY | |
| Owner Type: | | Other |
| Operator Name: | KEVIN MALLOY | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | Yes |
| Universal Waste Destination Facility: | | Yes |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |
| Institutional Control Indicator: | | No |
| Human Exposure Controls Indicator: | | N/A |
| Groundwater Controls Indicator: | | N/A |
| Significant Non-Complier Universe: | | No |
| Unaddressed Significant Non-Complier Universe: | | No |
| Addressed Significant Non-Complier Universe: | | No |

**TOM MALLOY CORP DBA TRENCH SHORING (Continued)** **1024817475**

| | |
|---|---|
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20180905 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: THOMAS E MALLOY | |
| Legal Status: | Other |
| Owner/Operator Address: | 636 E ROSECRANS AVE |
| Owner/Operator City,State,Zip: | LOS ANGELES, CA 90059-3507 |
| Owner/Operator Telephone: | 310-327-5554 |
| | |
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: KEVIN MALLOY | |
| Legal Status: | Other |
| Owner/Operator Address: | 636 E ROSECRANS AVE |
| Owner/Operator City,State,Zip: | LOS ANGELES, CA 90059 |
| Owner/Operator Telephone: | 310-327-5554 |

Historic Generators:

| | |
|---|---|
| Receive Date: | 20070703 |
| Handler Name: | TOM MALLOY CORP DBA TRENCH SHORING |
| Federal Waste Generator Description: | Not a generator, verified |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |

List of NAICS Codes and Descriptions:

| | |
|---|---|
| NAICS Code: | 562991 |
| NAICS Description: | SEPTIC TANK AND RELATED SERVICES |

Facility Has Received Notices of Violations:

| | |
|---|---|
| Violations: | No Violations Found |

Evaluation Action Summary:

| | |
|---|---|
| Evaluations: | No Evaluations Found |

**A3**
**East**
**< 1/8**
**0.049 mi.**
**261 ft.**

**CLASS ACTS AUTOBODY INC**
**1143 W LINCOLN ST UNITS 9-10**
**BANNING, CA 92220**

**Site 1 of 2 in cluster A**

**RCRA NonGen / NLR** **1024861696**
**CAL000430183**

**Relative:**
**Lower**

**Actual:**
**2363 ft.**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 20200205 |
| Handler Name: | CLASS ACTS AUTOBODY INC | |
| Handler Address: | | 1143 W LINCOLN ST UNITS 9-10 |
| Handler City,State,Zip: | | BANNING, CA 92220 |
| EPA ID: | | CAL000430183 |
| Contact Name: | | JOSEPH NEVINS |
| Contact Address: | | W 6TH ST |
| Contact City,State,Zip: | | BEAUMONT, CA 92223 |
| Contact Telephone: | | 951-845-2499 |
| Contact Fax: | | 951-845-9491 |
| Contact Email: | | JNEVINSJACC@YAHOO.COM |
| Contact Title: | | OWNER |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Mailing Address: | | W 6TH ST |
| Mailing City,State,Zip: | | BEAUMONT, CA 92223 |
| Owner Name: | JOSEPH NEVINS OWNER | |
| Owner Type: | | Other |
| Operator Name: | JOSEPH NEVINS OWNER | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | No |
| Universal Waste Destination Facility: | | No |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |
| Institutional Control Indicator: | | No |
| Human Exposure Controls Indicator: | | N/A |
| Groundwater Controls Indicator: | | N/A |
| Significant Non-Complier Universe: | | No |
| Unaddressed Significant Non-Complier Universe: | | No |
| Addressed Significant Non-Complier Universe: | | No |

**CLASS ACTS AUTOBODY INC (Continued)** **1024861696**

| | |
|---|---|
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20200212 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: JOSEPH NEVINS OWNER | |
| Legal Status: | Other |
| Owner/Operator Address: | 36431 ROGERS LN |
| Owner/Operator City,State,Zip: | YUCAIPA, CA 92399 |
| Owner/Operator Telephone: | 951-743-2744 |
| Owner/Operator Email: | JNEVINSJACC@YAHOO.COM |

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: JOSEPH NEVINS OWNER | |
| Legal Status: | Other |
| Owner/Operator Address: | 33478 LANSFORD ST |
| Owner/Operator City,State,Zip: | YUCAIPA, CA 92399 |
| Owner/Operator Telephone: | 951-743-2744 |

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: JOSEPH NEVINS OWNER | |
| Legal Status: | Other |
| Owner/Operator Address: | 36431 ROGERS LN |
| Owner/Operator City,State,Zip: | YUCAIPA, CA 92399 |
| Owner/Operator Telephone: | 951-743-2744 |
| Owner/Operator Email: | JNEVINSJACC@YAHOO.COM |

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: JOSEPH NEVINS | |
| Legal Status: | Other |
| Owner/Operator Address: | 33478 LANSFORD ST |
| Owner/Operator City,State,Zip: | YUCAIPA, CA 92399 |
| Owner/Operator Telephone: | 951-743-2744 |

Historic Generators:

| | |
|---|---|
| Receive Date: | 20200205 |
| Handler Name: CLASS ACTS AUTOBODY INC | |
| Federal Waste Generator Description: | Not a generator, verified |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |
| Non Storage Recycler Activity: | No |
| Electronic Manifest Broker: | No |

| | |
|---|---|
| Receive Date: | 20170822 |

**CLASS ACTS AUTOBODY INC (Continued)** **1024861696**

Handler Name: CLASS ACTS AUTOBODY
Federal Waste Generator Description: Not a generator, verified
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No

List of NAICS Codes and Descriptions:
NAICS Code: 811121
NAICS Description: AUTOMOTIVE BODY, PAINT, AND INTERIOR REPAIR AND MAINTENANCE

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

---

**A4** **OCHOA MOTORSPORTS LLC** **RCRA NonGen / NLR** **1026493126**
**East** **1143 W LINCOLN ST STE 13** **CAL000457932**
**< 1/8** **BANNING, CA 92220**
**0.049 mi.**
**261 ft.** **Site 2 of 2 in cluster A**

**Relative:** **Lower**
**Actual:** **2363 ft.**

RCRA NonGen / NLR:
Date Form Received by Agency: 20201102
Handler Name: OCHOA MOTORSPORTS LLC
Handler Address: 1143 W LINCOLN ST STE 13
Handler City,State,Zip: BANNING, CA 92220
EPA ID: CAL000457932
Contact Name: ANTHONY OCHOA
Contact Address: 632 BRYCE LN
Contact City,State,Zip: BEAUMONT, CA 92223
Contact Telephone: 909-478-2285
Contact Email: OCHOAMOTORSPORTS@GMAIL.COM
EPA Region: 09
Federal Waste Generator Description: Not a generator, verified
Mailing Address: 632 BRYCE LN
Mailing City,State,Zip: BEAUMONT, CA 92223
Owner Name: OCHOA MOTORSPORTS LLC
Owner Type: Other
Operator Name: ANTHONY OCHOA
Operator Type: Other
Short-Term Generator Activity: No
Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility Activity: No
Recycler Activity with Storage: No
Small Quantity On-Site Burner Exemption: No
Smelting Melting and Refining Furnace Exemption: No
Underground Injection Control: No
Off-Site Waste Receipt: No
Universal Waste Indicator: No

**OCHOA MOTORSPORTS LLC (Continued)** **1026493126**

| | |
|---|---|
| Universal Waste Destination Facility: | No |
| Federal Universal Waste: | No |
| Active Site State-Reg Handler: | --- |
| Hazardous Secondary Material Indicator: | N |
| Commercial TSD Indicator: | No |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20201106 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: OCHOA MOTORSPORTS LLC | |
| Legal Status: | Other |
| Owner/Operator Address: | 632 BRYCE LN |
| Owner/Operator City,State,Zip: | BEAUMONT, CA 92223 |
| Owner/Operator Telephone: | 909-478-2285 |
| | |
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: ANTHONY OCHOA | |
| Legal Status: | Other |
| Owner/Operator Address: | 632 BRYCE LN |
| Owner/Operator City,State,Zip: | BEAUMONT, CA 92223 |
| Owner/Operator Telephone: | 909-478-2285 |

Historic Generators:

| | |
|---|---|
| Receive Date: | 20201102 |
| Handler Name: OCHOA MOTORSPORTS LLC | |
| Federal Waste Generator Description: | Not a generator, verified |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |

**OCHOA MOTORSPORTS LLC (Continued)** **1026493126**

Current Record: Yes

List of NAICS Codes and Descriptions:
NAICS Code: 811111
NAICS Description: GENERAL AUTOMOTIVE REPAIR

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

---

**B5** **PACIFIC BELL** **RCRA NonGen / NLR** **1000250404**
**North** **1409 RAMSEY ST** **FINDS** **CAT080025448**
**1/8-1/4** **BANNING, CA 92220** **ECHO**
**0.150 mi.**
**791 ft.** **Site 1 of 4 in cluster B**

**Relative:** **Higher**
**Actual:** **2416 ft.**

RCRA NonGen / NLR:

| | |
|---|---|
| Date Form Received by Agency: | 19970912 |
| Handler Name: | PACIFIC BELL |
| Handler Address: | 1409 RAMSEY ST |
| Handler City,State,Zip: | BANNING, CA 92220 |
| EPA ID: | CAT080025448 |
| Contact Name: | ENVIRONMENTAL MANAGER |
| Contact Address: | 1409 RAMSEY ST |
| Contact City,State,Zip: | BANNING, CA 92220 |
| Contact Telephone: | 714-972-5116 |
| EPA Region: | 09 |
| Land Type: | Other |
| Federal Waste Generator Description: | Not a generator, verified |
| Mailing Address: | 500 S.MAIN S TOWER BOCC RM 260 |
| Mailing City,State,Zip: | ORANGE, CA 92668 |
| Owner Name: | THE PACIFIC TELEPHONE AND TELEGRAPH CO |
| Owner Type: | Private |
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | No |
| Universal Waste Destination Facility: | No |
| Federal Universal Waste: | No |
| Active Site State-Reg Handler: | --- |
| Hazardous Secondary Material Indicator: | NN |
| Commercial TSD Indicator: | No |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |

**PACIFIC BELL (Continued)** **1000250404**

| | |
|---|---|
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20020627 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: NOT REQUIRED | |
| Legal Status: | Private |
| Owner/Operator Address: | NOT REQUIRED |
| Owner/Operator City,State,Zip: | NOT REQUIRED, ME 99999 |
| Owner/Operator Telephone: | 415-555-1212 |

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: THE PACIFIC TELEPHONE AND TELEGRAPH CO | |
| Legal Status: | Private |
| Owner/Operator Address: | NOT REQUIRED |
| Owner/Operator City,State,Zip: | NOT REQUIRED, ME 99999 |
| Owner/Operator Telephone: | 415-555-1212 |

Historic Generators:

| | |
|---|---|
| Receive Date: | 19960901 |
| Handler Name: PACIFIC BELL | |
| Federal Waste Generator Description: | Small Quantity Generator |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | No |

| | |
|---|---|
| Receive Date: | 19810120 |
| Handler Name: PACIFIC BELL | |
| Federal Waste Generator Description: | Large Quantity Generator |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | No |

**PACIFIC BELL (Continued)** **1000250404**

Receive Date: 19970912
Handler Name: PACIFIC BELL
Federal Waste Generator Description: Not a generator, verified
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110002952458

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000250404
Registry ID: 110002952458
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002952458
Name: PACIFIC BELL
Address: 1409 RAMSEY ST
City,State,Zip: BANNING, CA 92220

---

**C6** **JASSO AUTO REPAIR** **RCRA NonGen / NLR** **1024836513**
**NW** **1630 W RAMSEY ST STE B** **CAL000380442**
**1/8-1/4** **BANNING, CA 92220**
**0.158 mi.**
**833 ft.** **Site 1 of 3 in cluster C**

**Relative:** **Higher**
**Actual:** **2424 ft.**

RCRA NonGen / NLR:
Date Form Received by Agency: 20121120
Handler Name: JASSO AUTO REPAIR
Handler Address: 1630 W RAMSEY ST STE B
Handler City,State,Zip: BANNING, CA 92220-4277
EPA ID: CAL000380442

**JASSO AUTO REPAIR (Continued)** **1024836513**

| | | |
|---|---|---|
| Contact Name: | | JOEL JASSO |
| Contact Address: | | 1630 W RAMSEY ST STE B |
| Contact City,State,Zip: | | BANNING, CA 92220-4277 |
| Contact Telephone: | | 951-345-2929 |
| Contact Fax: | | 999-999-9999 |
| Contact Email: | | JASSOJ-32@HOTMAIL.COM |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Active Site Indicator: | | Handler Activities |
| Mailing Address: | | 1630 W RAMSEY ST STE B |
| Mailing City,State,Zip: | | BANNING, CA 92220-4277 |
| Owner Name: | FERNANDO MONTOYA | |
| Owner Type: | | Other |
| Operator Name: | JOEL JASSO | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | Yes |
| Universal Waste Destination Facility: | | Yes |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |
| Institutional Control Indicator: | | No |
| Human Exposure Controls Indicator: | | N/A |
| Groundwater Controls Indicator: | | N/A |
| Significant Non-Complier Universe: | | No |
| Unaddressed Significant Non-Complier Universe: | | No |
| Addressed Significant Non-Complier Universe: | | No |
| Significant Non-Complier With a Compliance Schedule Universe: | | No |
| Handler Date of Last Change: | | 20180906 |
| Recognized Trader-Importer: | | No |
| Recognized Trader-Exporter: | | No |
| Importer of Spent Lead Acid Batteries: | | No |
| Exporter of Spent Lead Acid Batteries: | | No |
| Recycler Activity Without Storage: | | No |
| Manifest Broker: | | No |
| Sub-Part P Indicator: | | No |

**JASSO AUTO REPAIR (Continued)** **1024836513**

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: FERNANDO MONTOYA
Legal Status: Other
Owner/Operator Address: 1630 W RAMSEY ST STE B
Owner/Operator City,State,Zip: BANNING, CA 92220-4277
Owner/Operator Telephone: 951-345-2929

Owner/Operator Indicator: Operator
Owner/Operator Name: JOEL JASSO
Legal Status: Other
Owner/Operator Address: 1630 W RAMSEY ST STE B
Owner/Operator City,State,Zip: BANNING, CA 92220-4277
Owner/Operator Telephone: 951-345-2929

Historic Generators:
Receive Date: 20121120
Handler Name: JASSO AUTO REPAIR
Federal Waste Generator Description: Not a generator, verified
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes

List of NAICS Codes and Descriptions:
NAICS Code: 811111
NAICS Description: GENERAL AUTOMOTIVE REPAIR

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

---

**B7** **BANNING ARCO** **RCRA-SQG** **1000316135**
**North** **1979 WEST RAMSEY ST** **HIST UST** **CAD981627011**
**1/8-1/4** **BANNING, CA 92220** **FINDS**
**0.159 mi.** **ECHO**
**838 ft.** **Site 2 of 4 in cluster B**

**Relative:** **Higher**
**Actual:** **2417 ft.**

RCRA-SQG:
Date Form Received by Agency: 19960901
Handler Name: BANNING ARCO
Handler Address: 1979 WEST RAMSEY ST
Handler City,State,Zip: BANNING, CA 92220
EPA ID: CAD981627011
EPA Region: 09
Federal Waste Generator Description: Small Quantity Generator
Active Site Indicator: Handler Activities
State District Owner: CA
State District: 4
Mailing Address: 82083 INDIO BULD

**BANNING ARCO (Continued)** **1000316135**

| | | |
|---|---|---|
| Mailing City,State,Zip: | | INDIO, CA 92201 |
| Operator Name: | NOT REQUIRED | |
| Operator Type: | | Private |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | No |
| Universal Waste Destination Facility: | | No |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | NN |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |
| Institutional Control Indicator: | | No |
| Human Exposure Controls Indicator: | | N/A |
| Groundwater Controls Indicator: | | N/A |
| Significant Non-Complier Universe: | | No |
| Unaddressed Significant Non-Complier Universe: | | No |
| Addressed Significant Non-Complier Universe: | | No |
| Significant Non-Complier With a Compliance Schedule Universe: | | No |
| Handler Date of Last Change: | | 20020627 |
| Recognized Trader-Importer: | | No |
| Recognized Trader-Exporter: | | No |
| Importer of Spent Lead Acid Batteries: | | No |
| Exporter of Spent Lead Acid Batteries: | | No |
| Sub-Part P Indicator: | | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: DINESH A PATEL | |
| Legal Status: | Private |
| Owner/Operator Address: | NOT REQUIRED |
| Owner/Operator City,State,Zip: | NOT REQUIRED, ME 99999 |
| Owner/Operator Telephone: | 415-555-1212 |
| | |
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: NOT REQUIRED | |
| Legal Status: | Private |
| Owner/Operator Address: | NOT REQUIRED |
| Owner/Operator City,State,Zip: | NOT REQUIRED, ME 99999 |

**BANNING ARCO (Continued)** **1000316135**

Owner/Operator Telephone: 415-555-1212

Historic Generators:
Receive Date: 19960901
Handler Name: BANNING ARCO
Federal Waste Generator Description: Small Quantity Generator
State District Owner: CA
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes

Receive Date: 19870202
Handler Name: BANNING ARCO
Federal Waste Generator Description: Large Quantity Generator
State District Owner: CA
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

HIST UST:
Name: BANNING ARCO GAS STATION
Address: 1479 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
File Number: 0001F81F
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0001F81F.pdf
Region: STATE
Facility ID: 00000060645
Facility Type: Gas Station
Contact Name: BOB PATEL
Telephone: 7148495817
Owner Name: N.B. PATEL, ETAL
Owner Address: 1979 WEST RAMSEY ST
Owner City,St,Zip: BANNING, CA 92220
Total Tanks: 0003

Tank Num: 001
Container Num: 1
Tank Capacity: 00010000
Tank Used for: PRODUCT

**BANNING ARCO (Continued)** **1000316135**

Type of Fuel: UNLEADED
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: 2
Tank Capacity: 00000000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Leak Detection: None

Tank Num: 003
Container Num: 3
Tank Capacity: 00000000
Tank Used for: PRODUCT
Type of Fuel: PREMIUM
Leak Detection: None

Click here for Geo Tracker PDF:

FINDS:
Registry ID: 110002729753

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000316135
Registry ID: 110002729753
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002729753
Name: BANNING ARCO
Address: 1979 WEST RAMSEY ST
City,State,Zip: BANNING, CA 92220

---

**D8** **DOLLAR GENERAL** **CERS HAZ WASTE** **S117310466**
**NNE** **1323 W. RAMSEY STREET** **HAZNET** **N/A**
**1/8-1/4** **BANNING, CA 92220** **NPDES**
**0.162 mi.** **CERS**
**853 ft.** **Site 1 of 2 in cluster D** **HWTS**

**Relative:** **Higher**
**Actual:** **2412 ft.**

CERS HAZ WASTE:
Name: DOLLAR GENERAL #13066
Address: 1323 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 391562
CERS ID: 10330021
CERS Description: Hazardous Waste Generator

**DOLLAR GENERAL (Continued)** **S117310466**

HAZNET:

| | |
|---|---|
| Name: | DOLLAR GENERAL STORE #13066 |
| Address: | 1323 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 370722171 |
| Contact: | KRISTIN ELLIOTT |
| Telephone: | 6158555365 |
| Mailing Address: | 100 MISSION RDG |
| Year: | 2019 |
| Gepaid: | CAL000374269 |
| TSD EPA ID: | NVD980895338 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.03350 |
| Year: | 2019 |
| Gepaid: | CAL000374269 |
| TSD EPA ID: | AZR000515924 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H135 - Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment) |
| Tons: | 0.03000 |
| Year: | 2019 |
| Gepaid: | CAL000374269 |
| TSD EPA ID: | CAD008364432 |
| CA Waste Code: | 181 - Other inorganic solid waste |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.00050 |
| Year: | 2019 |
| Gepaid: | CAL000374269 |
| TSD EPA ID: | NVD980895338 |
| CA Waste Code: | 141 - Off-specification, aged or surplus inorganics |
| Disposal Method: | H070 - |
| Tons: | 0.00100 |
| Year: | 2019 |
| Gepaid: | CAL000374269 |
| TSD EPA ID: | CAD008364432 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.02150 |
| Year: | 2019 |
| Gepaid: | CAL000374269 |
| TSD EPA ID: | CAD008364432 |
| CA Waste Code: | 122 - Alkaline solution without metals pH >= 12.5 |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.03450 |
| Year: | 2019 |
| Gepaid: | CAL000374269 |

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| TSD EPA ID: | AZR000515924 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.33150 |
| | |
| Year: | 2018 |
| Gepaid: | CAL000374269 |
| TSD EPA ID: | CAD008364432 |
| CA Waste Code: | 122 - Alkaline solution without metals pH >= 12.5 |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.01500 |
| | |
| Year: | 2018 |
| Gepaid: | CAL000374269 |
| TSD EPA ID: | AZR000515924 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.25250 |
| | |
| Year: | 2018 |
| Gepaid: | CAL000374269 |
| TSD EPA ID: | CAD008364432 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.00050 |

Click this hyperlink while viewing on your computer to access
19 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:

| | |
|---|---|
| Year: | 2016 |
| Gen EPA ID: | CAL000374269 |
| | |
| Shipment Date: | 20150323 |
| Creation Date: | 6/25/2015 22:15:43 |
| Receipt Date: | 20150326 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.004 |
| Waste Quantity: | 8 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20150323 |

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| Creation Date: | 6/25/2015 22:15:43 |
| Receipt Date: | 20150326 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H061 - Fuel Blending Prior To Energy Recovery At Another Site |
| Quantity Tons: | 0.006 |
| Waste Quantity: | 12 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20150323 |
| Creation Date: | 6/25/2015 22:15:43 |
| Receipt Date: | 20150326 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 141 - Off-specification, aged, or surplus inorganics |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0005 |
| Waste Quantity: | 1 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20150323 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0375 |
| Waste Quantity: | 75 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20150323 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| Waste Code Description: | 791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals |
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.007 |
| Waste Quantity: | 14 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20150323 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 122 - Alkaline solution without metals (pH > 12.5 |
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0255 |
| Waste Quantity: | 51 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20150323 |
| Creation Date: | 6/25/2015 22:15:43 |
| Receipt Date: | 20150326 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 232 - Pesticides and other waste associated with pesticide production |
| RCRA Code: | D005 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0095 |
| Waste Quantity: | 19 |
| Quantity Unit: | P |

Additional Info:

| | |
|---|---|
| Year: | 2017 |
| Gen EPA ID: | CAL000374269 |
| | |
| Shipment Date: | 20171127 |
| Creation Date: | 6/28/2018 18:30:17 |
| Receipt Date: | 20171206 |
| Manifest ID: | 010758904FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 122 - Alkaline solution without metals (pH > 12.5 |

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.005 |
| Waste Quantity: | 10 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171127 |
| Creation Date: | 6/28/2018 18:30:17 |
| Receipt Date: | 20171206 |
| Manifest ID: | 010758904FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0025 |
| Waste Quantity: | 5 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171127 |
| Creation Date: | 6/28/2018 18:30:17 |
| Receipt Date: | 20171206 |
| Manifest ID: | 010758904FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.001 |
| Waste Quantity: | 2 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171127 |
| Creation Date: | 6/28/2018 18:30:17 |
| Receipt Date: | 20171206 |
| Manifest ID: | 010758904FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.049 |

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| Waste Quantity: | 98 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171127 |
| Manifest ID: | 010758904FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0365 |
| Waste Quantity: | 73 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171030 |
| Creation Date: | 6/27/2018 18:30:19 |
| Receipt Date: | 20171109 |
| Manifest ID: | 010758819FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0015 |
| Waste Quantity: | 3 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171030 |
| Manifest ID: | 010758819FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.03 |
| Waste Quantity: | 60 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171030 |
| Creation Date: | 6/27/2018 18:30:19 |
| Receipt Date: | 20171109 |
| Manifest ID: | 010758819FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 122 - Alkaline solution without metals (pH > 12.5 |
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.005 |
| Waste Quantity: | 10 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171030 |
| Creation Date: | 6/27/2018 18:30:19 |
| Receipt Date: | 20171109 |
| Manifest ID: | 010758819FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D005 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0045 |
| Waste Quantity: | 9 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171030 |
| Manifest ID: | 010758819FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0075 |
| Waste Quantity: | 15 |
| Quantity Unit: | P |

Additional Info:

| | |
|---|---|
| Year: | 2013 |
| Gen EPA ID: | CAL000374269 |
| | |
| Shipment Date: | 20131223 |
| Creation Date: | 2/24/2014 22:15:23 |
| Receipt Date: | 20140103 |
| Manifest ID: | 000665544PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |

**DOLLAR GENERAL (Continued)** **S117310466**

TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Waste Code Description: 122 - Alkaline solution without metals (pH > 12.5
RCRA Code: D002
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.0115
Waste Quantity: 23
Quantity Unit: P

Shipment Date: 20130710
Creation Date: 9/22/2013 22:15:08
Receipt Date: 20130724
Manifest ID: 000555718PSC
Trans EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Trans 2 EPA ID: CAD983649880
Trans 2 Name: PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Waste Code Description: 232 - Pesticides and other waste associated with pesticide production
RCRA Code: D005
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.021
Waste Quantity: 42
Quantity Unit: P

Shipment Date: 20130710
Creation Date: 9/22/2013 22:15:08
Receipt Date: 20130724
Manifest ID: 000555718PSC
Trans EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Trans 2 EPA ID: CAD983649880
Trans 2 Name: PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Waste Code Description: 331 - Off-specification, aged, or surplus organics
RCRA Code: D001
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.0195
Waste Quantity: 39
Quantity Unit: P

Additional Info:
Year: 2015
Gen EPA ID: CAL000374269

Shipment Date: 20150323
Manifest ID: 000976870PSC
Trans EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Trans 2 EPA ID: CAD983649880
Trans 2 Name: PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID: CAD008364432

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals |
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.007 |
| Waste Quantity: | 14 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20150323 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 122 - Alkaline solution without metals (pH > 12.5 |
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0255 |
| Waste Quantity: | 51 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20150323 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0375 |
| Waste Quantity: | 75 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20150323 |
| Creation Date: | 6/25/2015 22:15:43 |
| Receipt Date: | 20150326 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 232 - Pesticides and other waste associated with pesticide production |
| RCRA Code: | D005 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0095 |
| Waste Quantity: | 19 |
| Quantity Unit: | P |

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| Shipment Date: | 20150323 |
| Creation Date: | 6/25/2015 22:15:43 |
| Receipt Date: | 20150326 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H061 - Fuel Blending Prior To Energy Recovery At Another Site |
| Quantity Tons: | 0.006 |
| Waste Quantity: | 12 |
| Quantity Unit: | P |

| | |
|---|---|
| Shipment Date: | 20150323 |
| Creation Date: | 6/25/2015 22:15:43 |
| Receipt Date: | 20150326 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 141 - Off-specification, aged, or surplus inorganics |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0005 |
| Waste Quantity: | 1 |
| Quantity Unit: | P |

| | |
|---|---|
| Shipment Date: | 20150323 |
| Creation Date: | 6/25/2015 22:15:43 |
| Receipt Date: | 20150326 |
| Manifest ID: | 000976870PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.004 |
| Waste Quantity: | 8 |
| Quantity Unit: | P |

Additional Info:

| | |
|---|---|
| Year: | 2014 |
| Gen EPA ID: | CAL000374269 |

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| Shipment Date: | 20141203 |
| Creation Date: | 2/11/2015 22:15:10 |
| Receipt Date: | 20141208 |
| Manifest ID: | 000901555PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.004 |
| Waste Quantity: | 8 |
| Quantity Unit: | P |

| | |
|---|---|
| Shipment Date: | 20141203 |
| Creation Date: | 2/11/2015 22:15:10 |
| Receipt Date: | 20141208 |
| Manifest ID: | 000901555PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H061 - Fuel Blending Prior To Energy Recovery At Another Site |
| Quantity Tons: | 0.016 |
| Waste Quantity: | 32 |
| Quantity Unit: | P |

| | |
|---|---|
| Shipment Date: | 20141203 |
| Manifest ID: | 000901555PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 232 - Pesticides and other waste associated with pesticide production |
| RCRA Code: | D005 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.007 |
| Waste Quantity: | 14 |
| Quantity Unit: | P |

| | |
|---|---|
| Shipment Date: | 20141203 |
| Creation Date: | 2/11/2015 22:15:10 |
| Receipt Date: | 20141208 |
| Manifest ID: | 000901555PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 122 - Alkaline solution without metals (pH > 12.5 |
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.011 |
| Waste Quantity: | 22 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20141203 |
| Creation Date: | 2/11/2015 22:15:10 |
| Receipt Date: | 20141208 |
| Manifest ID: | 000901555PSC |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.028 |
| Waste Quantity: | 56 |
| Quantity Unit: | P |

NPDES:

| | |
|---|---|
| Name: | DOLLAR GENERAL |
| Address: | 1323 W. RAMSEY STREET |
| City,State,Zip: | BANNING, CA 92220 |
| WDID: | 7 33W000612 |
| Regulatory Measure Type: | Construction |
| Status: | Expired |
| Status Date: | 09/12/2012 |
| Operator Name: | Dynamic Development Company |
| Operator Address: | 1725 21st Street |
| Operator City: | Santa Monica |
| Operator State: | California |
| Operator Zip: | 90404 |

CERS:

| | |
|---|---|
| Name: | DOLLAR GENERAL #13066 |
| Address: | 1323 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Site ID: | 391562 |
| CERS ID: | 10330021 |
| CERS Description: | Chemical Storage Facilities |

Violations:

| | |
|---|---|
| Site ID: | 391562 |
| Site Name: | Dollar General #13066 |
| Violation Date: | 01-31-2014 |
| Citation: | 22 CCR 15 66265.33 - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.33 |

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| Violation Description: | Failure of the facility to test and maintain all communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment. |
| Violation Notes: | Returned to compliance on 03/27/2014. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 391562 |
| Site Name: | Dollar General #13066 |
| Violation Date: | 03-11-2014 |
| Citation: | 22 CCR 15 66265.33 - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.33 |
| Violation Description: | Failure of the facility to test and maintain all communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment. |
| Violation Notes: | Returned to compliance on 03/27/2014. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 391562 |
| Site Name: | Dollar General #13066 |
| Violation Date: | 05-17-2017 |
| Citation: | 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a) |
| Violation Description: | Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste. |
| Violation Notes: | Returned to compliance on 07/25/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 391562 |
| Site Name: | Dollar General #13066 |
| Violation Date: | 05-17-2017 |
| Citation: | 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f) |
| Violation Description: | Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date. |
| Violation Notes: | Returned to compliance on 07/25/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 12-10-2019 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Facility shall include accumulation start dates on totes. |

**DOLLAR GENERAL (Continued)** **S117310466**

Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-31-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Generator inspection
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-27-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Follow up inspection
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-11-2014
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Follow up inspection
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-17-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 07-25-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Enforcement Action:
Site ID: 391562
Site Name: Dollar General #13066
Site Address: 1323 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 01-31-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health

**DOLLAR GENERAL (Continued)** **S117310466**

Enf Action Program: HW
Enf Action Source: CERS,

Site ID: 391562
Site Name: Dollar General #13066
Site Address: 1323 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 03-11-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HW
Enf Action Source: CERS,

Coordinates:
Site ID: 391562
Facility Name: Dollar General #13066
Env Int Type Code: HMBP
Program ID: 10330021
Ref Point Type Desc: Center of a facility or station.,
Latitude: 33.925930
Longitude: -116.890900

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: ASHLEY CAMPBELL
Affiliation Phone: ,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Affiliation Address: Environmental Compliance, 100 MISSION RIDGE
Affiliation City: Goodlettsville
Affiliation State: TN
Affiliation Zip: 37072
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: Ashley Campbell
Entity Title: COMPLIANCE&REG AFFAIR SPECIALIST
Affiliation Phone: ,

Affiliation Type Desc: Environmental Contact
Entity Name: ERIC VOYLES
Affiliation Address: Environmental Compliance, 100 MISSION RIDGE
Affiliation City: GOODLETTSVILLE
Affiliation State: TN
Affiliation Zip: 37072
Affiliation Phone: ,

Affiliation Type Desc: Legal Owner
Entity Name: DOLGEN CALIFORNIA, LLC
Affiliation Address: 100 MISSION RIDGE
Affiliation City: GOODLETTSVILLE
Affiliation State: TN
Affiliation Country: United States

**DOLLAR GENERAL (Continued)** **S117310466**

| | |
|---|---|
| Affiliation Zip: | 37072 |
| Affiliation Phone: | (615) 855-4638, |
| Affiliation Type Desc: | CUPA District |
| Entity Name: | Riverside Cnty Env Health |
| Affiliation Address: | 4065 County Circle Drive, Room 104 |
| Affiliation City: | Riverside |
| Affiliation State: | CA |
| Affiliation Zip: | 92503 |
| Affiliation Phone: | (951) 358-5055, |
| Affiliation Type Desc: | Operator |
| Entity Name: | DOLLAR GENERAL #13066 |
| Affiliation Phone: | (951) 267-9221, |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | Dollar General |
| Affiliation Phone: | , |

HWTS:

| | |
|---|---|
| Name: | DOLLAR GENERAL STORE #13066 |
| Address: | 1323 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| EPA ID: | CAL000374269 |
| Create Date: | 05/04/2012 |
| Mailing Address: | 100 MISSION RDG |
| Mailing City,State,Zip: | GOODLETTSVILLE, TN 370722171 |
| Owner Name: | DOLLAR GENERAL |
| Owner Address: | 100 MISSION RDG |
| Owner City,State,Zip: | GOODLETTSVILLE, TN 370722171 |
| Contact Name: | KRISTIN ELLIOTT |
| Contact Address: | 100 MISSION RIDGE |
| City,State,Zip: | GOODLETTSVILLE, TN 37072 |
| Facility Status: | Active |
| Facility Type: | PERMANENT |
| Category: | STATE |
| Latitude: | 33.925479 |
| Longitude: | -116.891185 |

NAICS:

| | |
|---|---|
| EPA ID: | CAL000374269 |
| Create Date: | 2012-05-04 12:11:46.940 |
| NAICS Code: | 45299 |
| NAICS Description: | All Other General Merchandise Stores |
| Issued EPA ID Date: | 2012-05-04 12:11:46.94000 |
| Facility Name: | DOLLAR GENERAL STORE #13066 |
| Facility Address: | 1323 W RAMSEY ST |
| Facility City: | BANNING |
| Facility State: | CA |
| Facility Zip: | 92220 |

**D9** **DOLLAR GENERAL STORE #13066** **RCRA NonGen / NLR** **1024834166**
**NNE** **1323 W RAMSEY ST** **CAL000374269**
**1/8-1/4** **BANNING, CA 92220**
**0.162 mi.**
**853 ft.** **Site 2 of 2 in cluster D**

**Relative:** **Higher**
**Actual:** **2412 ft.**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 20120504 |
| Handler Name: | DOLLAR GENERAL STORE #13066 | |
| Handler Address: | | 1323 W RAMSEY ST |
| Handler City,State,Zip: | | BANNING, CA 92220 |
| EPA ID: | | CAL000374269 |
| Contact Name: | | KRISTIN ELLIOTT |
| Contact Address: | | 100 MISSION RIDGE |
| Contact City,State,Zip: | | GOODLETTSVILLE, TN 37072 |
| Contact Telephone: | | 615-855-5365 |
| Contact Email: | | ENVCOMPLIANCE@DOLLARGENERAL.COM |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Active Site Indicator: | | Handler Activities |
| Mailing Address: | | 100 MISSION RDG |
| Mailing City,State,Zip: | | GOODLETTSVILLE, TN 37072-2171 |
| Owner Name: | DOLLAR GENERAL | |
| Owner Type: | | Other |
| Operator Name: | KRISTIN ELLIOTT | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | Yes |
| Universal Waste Destination Facility: | | Yes |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |
| Institutional Control Indicator: | | No |
| Human Exposure Controls Indicator: | | N/A |
| Groundwater Controls Indicator: | | N/A |
| Significant Non-Complier Universe: | | No |
| Unaddressed Significant Non-Complier Universe: | | No |
| Addressed Significant Non-Complier Universe: | | No |
| Significant Non-Complier With a Compliance Schedule Universe: | | No |

**DOLLAR GENERAL STORE #13066 (Continued)** **1024834166**

| | |
|---|---|
| Handler Date of Last Change: | 20180906 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: KRISTIN ELLIOTT | |
| Legal Status: | Other |
| Owner/Operator Address: | 100 MISSION RIDGE |
| Owner/Operator City,State,Zip: | GOODLETTSVILLE, TN 37072 |
| Owner/Operator Telephone: | 615-855-5365 |
| | |
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: DOLLAR GENERAL | |
| Legal Status: | Other |
| Owner/Operator Address: | 100 MISSION RDG |
| Owner/Operator City,State,Zip: | GOODLETTSVILLE, TN 37072-2171 |
| Owner/Operator Telephone: | 615-855-4000 |

Historic Generators:

| | |
|---|---|
| Receive Date: | 20120504 |
| Handler Name: | DOLLAR GENERAL STORE #13066 |
| Federal Waste Generator Description: | Not a generator, verified |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |

List of NAICS Codes and Descriptions:

| | |
|---|---|
| NAICS Code: | 45299 |
| NAICS Description: | ALL OTHER GENERAL MERCHANDISE STORES |

Facility Has Received Notices of Violations:

| | |
|---|---|
| Violations: | No Violations Found |

Evaluation Action Summary:

| | |
|---|---|
| Evaluations: | No Evaluations Found |

**B10** **FAMILY DOLLAR #29074** **CERS HAZ WASTE** **S113025732**
**North** **1481 W RAMSEY ST** **HAZNET** **N/A**
**1/8-1/4** **BANNING, CA 92220** **CERS**
**0.162 mi.** **HWTS**
**855 ft.** **Site 3 of 4 in cluster B**

**Relative:**
**Higher**

**Actual:**
**2421 ft.**

CERS HAZ WASTE:
Name: FAMILY DOLLAR #29074
Address: 1481 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 29619
CERS ID: 10330105
CERS Description: Hazardous Waste Generator

HAZNET:
Name: NEW BANNING C-P-D INC THE
Address: 1481 W RAMSEY ST
City,State,Zip: BANNING, CA 922200000
Contact: INACT PER 96 VQ AD
Telephone: --
Mailing Address: 1481 W RAMSEY ST

Year: 1993
Gepaid: CAL000012228
TSD EPA ID: CAD982524613
CA Waste Code: 541 - Photochemicals/photoprocessing waste
Disposal Method: R01 - Recycler
Tons: 0.0708

Additional Info:
Year: 1993
Gen EPA ID: CAL000012228

Shipment Date: 19930923
Creation Date: 9/12/1995 0:00:00
Receipt Date: 19930923
Manifest ID: 93172003
Trans EPA ID: CAD982524613
TSDF EPA ID: CAD982524613
Waste Code Description: 541 - Photochemicals / photo processing waste
RCRA Code: D011
Meth Code: R01 - Recycler
Quantity Tons: 0.0708
Waste Quantity: 17
Quantity Unit: G

CERS:
Name: FAMILY DOLLAR #29074
Address: 1481 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 29619
CERS ID: 10330105
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-04-2020

**FAMILY DOLLAR #29074 (Continued)** **S113025732**

| | |
|---|---|
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | ** #42. While on site observed a portion of manifests without designated facility signatures, was informed completed manifests are kept in corporate office(s). ** |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 10-07-2015 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 10-10-2018 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-24-2022 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-24-2022 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Facility is a retail store generating retail wastes including (state toxins, corrosive acids, universal waste, and bases). |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |

Coordinates:

| | |
|---|---|
| Site ID: | 29619 |
| Facility Name: | Family Dollar #29074 |
| Env Int Type Code: | HWG |
| Program ID: | 10330105 |
| Ref Point Type Desc: | Center of a facility or station., |
| Latitude: | 33.925880 |
| Longitude: | -116.892870 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | JOSE FIGUEROA |
| Affiliation Phone: | , |

**FAMILY DOLLAR #29074 (Continued)** **S113025732**

Affiliation Type Desc: Environmental Contact
Entity Name: Silvestre Luna
Affiliation Address: 1122 Runway Drive
Affiliation City: Stockton
Affiliation State: CA
Affiliation Zip: 95206
Affiliation Phone: ,

Affiliation Type Desc: Legal Owner
Entity Name: Dollar Tree Stores, Inc.
Affiliation Address: 500 Volvo Parkway
Affiliation City: Chesapeake
Affiliation State: VA
Affiliation Country: United States
Affiliation Zip: 23320
Affiliation Phone: (866) 377-6420,

Affiliation Type Desc: Operator
Entity Name: Dollar Tree Stores, Inc.
Affiliation Phone: (757) 321-5000,

Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Affiliation Address: 500 Volvo Parkway
Affiliation City: Chesapeake
Affiliation State: VA
Affiliation Zip: 23320
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: Jose Figueroa
Entity Title: EH&S Specialist
Affiliation Phone: ,

Affiliation Type Desc: Parent Corporation
Entity Name: Family Dollar Stores, Inc.
Affiliation Phone: ,

HWTS:
Name: NEW BANNING C-P-D INC THE
Address: 1481 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
EPA ID: CAL000012228
Inactive Date: 06/30/1996
Create Date: 11/14/1989
Mailing Address: 1481 W RAMSEY ST
Mailing City,State,Zip: BANNING, CA 922200000
Owner Name: MOORE JR HOMER

**FAMILY DOLLAR #29074 (Continued)** **S113025732**

| | |
|---|---|
| Contact Name: | INACT PER 96 VQ AD |
| Facility Status: | Inactive |
| Facility Type: | PERMANENT |
| Category: | STATE |
| Latitude: | 33.925447 |
| Longitude: | -116.892949 |

---

**B11** **FAMILY DOLLAR INC #9074** **RCRA NonGen / NLR** **1024834353**
**North** **1481 W RAMSEY ST** **CAL000374719**
**1/8-1/4** **BANNING, CA 92220**
**0.162 mi.**
**855 ft.** **Site 4 of 4 in cluster B**

**Relative:** RCRA NonGen / NLR:
**Higher**

| | | |
|---|---|---|
| Date Form Received by Agency: | | 20120521 |
| **Actual:** Handler Name: | FAMILY DOLLAR INC #9074 | |
| **2421 ft.** Handler Address: | | 1481 W RAMSEY ST |
| Handler City,State,Zip: | | BANNING, CA 92220-4449 |
| EPA ID: | | CAL000374719 |
| Contact Name: | | CONNIE KELCH |
| Contact Address: | | 500 VOLVO PARKWAY |
| Contact City,State,Zip: | | CHESAPEAKE, VA 23320 |
| Contact Telephone: | | 757-321-5405 |
| Contact Fax: | | 757-321-5214 |
| Contact Email: | | CKELCH@DOLLARTREE.COM |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Active Site Indicator: | | Handler Activities |
| Mailing Address: | | 500 VOLVO PARKWAY |
| Mailing City,State,Zip: | | CHESAPEAKE, VA 23320-0000 |
| Owner Name: | FAMILY DOLLAR INC | |
| Owner Type: | | Other |
| Operator Name: | CONNIE KELCH | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | Yes |
| Universal Waste Destination Facility: | | Yes |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |

**FAMILY DOLLAR INC #9074 (Continued)** **1024834353**

| | |
|---|---|
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20180906 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: FAMILY DOLLAR INC | |
| Legal Status: | Other |
| Owner/Operator Address: | 500 VOLVO PARKWAY |
| Owner/Operator City,State,Zip: | CHESAPEAKE, VA 23320-0000 |
| Owner/Operator Telephone: | 757-321-5000 |

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: CONNIE KELCH | |
| Legal Status: | Other |
| Owner/Operator Address: | 500 VOLVO PARKWAY |
| Owner/Operator City,State,Zip: | CHESAPEAKE, VA 23320 |
| Owner/Operator Telephone: | 757-321-5405 |

Historic Generators:

| | |
|---|---|
| Receive Date: | 20120521 |
| Handler Name: FAMILY DOLLAR INC #9074 | |
| Federal Waste Generator Description: | Not a generator, verified |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |

List of NAICS Codes and Descriptions:

| | |
|---|---|
| NAICS Code: | 45299 |
| NAICS Description: | ALL OTHER GENERAL MERCHANDISE STORES |

Facility Has Received Notices of Violations:

| | |
|---|---|
| Violations: | No Violations Found |

Evaluation Action Summary:

| | |
|---|---|
| Evaluations: | No Evaluations Found |

**E12** **DESERT PALM CLEANERS** **CERS HAZ WASTE** **1000262612**
**NNW** **1529 W RAMSEY ST** **DRYCLEANERS** **N/A**
**1/8-1/4** **BANNING, CA 92220** **EMI**
**0.162 mi.** **CERS**
**857 ft.** **Site 1 of 5 in cluster E** **HWTS**

**Relative: Higher**

**Actual: 2423 ft.**

CERS HAZ WASTE:

| | |
|---|---|
| Name: | DESERT PALMS CLEANERS |
| Address: | 1529 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Site ID: | 24863 |
| CERS ID: | 10328248 |
| CERS Description: | Hazardous Waste Generator |

DRYCLEANERS:

| | |
|---|---|
| Name: | ERMISCH MY CLEANERS |
| Address: | 1529 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 922200000 |
| EPA Id: | CAD981651904 |
| NAICS Code: | 81232 |
| NAICS Description: | Drycleaning and Laundry Services (except Coin-Operated) |
| SIC Code: | 7211 |
| SIC Description: | Power Laundries, Family and Commercial |
| Create Date: | 07/03/1987 |
| Facility Active: | No |
| Inactive Date: | 06/30/2005 |
| Owner Name: | WOLFRAM AND SON INC |
| Owner Address: | 1529 W RAMSEY ST |
| Owner Telephone: | 0 |
| Contact Name: | CARL WOLFRAM |
| Contact Address: | 1529 W RAMSEY ST |
| Contact Telephone: | 0 |
| Mailing Address 1: | 43420 DUNLAP RD |
| Mailing City: | BANNING |
| Mailing State: | CA |
| Mailing Zip: | 922200000 |
| Region Code: | 4 |
| Latitude: | 33.925448 |
| Longitude: | -116.8935 |

| | |
|---|---|
| Name: | DESERT PALMS CLEANERS |
| Address: | 1529 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 922204451 |
| EPA Id: | CAL000291156 |
| NAICS Code: | 81232 |
| NAICS Description: | Drycleaning and Laundry Services (except Coin-Operated) |
| SIC Code: | 7211 |
| SIC Description: | Power Laundries, Family and Commercial |
| Create Date: | 02/14/2005 |
| Facility Active: | No |
| Inactive Date: | 06/30/2008 |
| Owner Name: | MODESTO PONCE DELEON |
| Owner Address: | 1529 W RAMSEY ST |
| Owner Telephone: | 9517691736 |
| Contact Name: | MODESTO PONCE DELEON |
| Contact Address: | 1529 W RAMSEY ST |
| Contact Telephone: | 9518492141 |
| Contact Fax: | 9519228781 |
| Mailing Address 1: | 1529 W RAMSEY ST |

**DESERT PALM CLEANERS (Continued)** **1000262612**

Mailing City: BANNING
Mailing State: CA
Mailing Zip: 92220
Region Code: 4
Latitude: 33.925485
Longitude: -116.893526

DRYCLEAN SOUTH COAST:
Name: ERMISCH MY CLEANERS, WOLFRAM & SON INC
Address: 1529 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Facility ID: 25024
Application Number: 00810E
Permit Number: E03309
Status: S
Representative Name: CARL WOLFRAM
Representative Telephone: 951 8492141
Permit Status: INACTIVE
BCAT Number: 000233
BCAT Description: DRY CLEANING EQUIP PETROLEUM SOLVENT
CCAT Number: 10
CCAT Description: SOLVATION UNIT
UTM East: 509.87200928
UTM North: 3753.6960449
Application Date: 01/01/1990
PO Issue Date: 02/08/1979
SIC Code: 7216

Name: ERMISCH MY CLEANERS, WOLFRAM & SON INC
Address: 1529 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Facility ID: 25024
Application Number: 319132
Permit Number: F3963
Status: S
Representative Name: CARL WOLFRAM
Representative Telephone: 951 8492141
Permit Status: INACTIVE
BCAT Number: 000233
BCAT Description: DRY CLEANING EQUIP PETROLEUM SOLVENT
UTM East: 509.87200928
UTM North: 3753.6960449
Application Date: 08/29/1996
PO Issue Date: 11/14/1996
SIC Code: 7216

Name: ERMISCH MY CLEANERS, WOLFRAM & SON INC
Address: 1529 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Facility ID: 25024
Application Number: 407702
Permit Number: F55743
Status: S
Representative Name: CARL WOLFRAM
Representative Telephone: 951 8492141
Permit Status: INACTIVE
BCAT Number: 000233

**DESERT PALM CLEANERS (Continued)** **1000262612**

BCAT Description: DRY CLEANING EQUIP PETROLEUM SOLVENT
UTM East: 509.87200928
UTM North: 3753.6960449
Application Date: 10/15/2002
PO Issue Date: 10/17/2002
SIC Code: 7216

Name: DESERT PALM CLEANERS
Address: 1529 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Facility ID: 144384
Application Number: 443262
Permit Number: F76077
Status: A
Representative Name: MODASTO PONIE DE LEOW
Representative Telephone: 951 8492141
Permit Status: ACTIVE
BCAT Number: 000233
BCAT Description: DRY CLEANING EQUIP PETROLEUM SOLVENT
UTM East: 509.83999634
UTM North: 3753.6999512
Application Date: 04/29/2005
PO Issue Date: 06/14/2005
NAICS Code: 812320
SIC Code: 7216

EMI:
Name: ERMISCH MY CLEANERS, WOLFRAM &
Address: 1529 W RAMSEY
City,State,Zip: BANNING, CA 922200000
Year: 1987
County Code: 33
Air Basin: SC
Facility ID: 25024
Air District Name: SC
SIC Code: 7216
Air District Name: SOUTH COAST AQMD
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Name: ERMISCH MY CLEANERS, WOLFRAM &
Address: 1529 W RAMSEY
City,State,Zip: BANNING, CA 922200000
Year: 1990
County Code: 33
Air Basin: SC
Facility ID: 25024
Air District Name: SC
SIC Code: 7216
Air District Name: SOUTH COAST AQMD
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1

**DESERT PALM CLEANERS (Continued)** **1000262612**

| | |
|---|---|
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | ERMISCH MY CLEANERS, WOLFRAM & SON INC |
| Address: | 1529 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 922200000 |
| Year: | 2002 |
| County Code: | 33 |
| Air Basin: | SC |
| Facility ID: | 25024 |
| Air District Name: | SC |
| SIC Code: | 7216 |
| Air District Name: | SOUTH COAST AQMD |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | ERMISCH MY CLEANERS, WOLFRAM & SON INC |
| Address: | 1529 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 922200000 |
| Year: | 2003 |
| County Code: | 33 |
| Air Basin: | SC |
| Facility ID: | 25024 |
| Air District Name: | SC |
| SIC Code: | 7216 |
| Air District Name: | SOUTH COAST AQMD |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | ERMISCH MY CLEANERS, WOLFRAM & SON INC |
| Address: | 1529 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 922200000 |
| Year: | 2004 |
| County Code: | 33 |
| Air Basin: | SC |
| Facility ID: | 25024 |
| Air District Name: | SC |
| SIC Code: | 7216 |
| Air District Name: | SOUTH COAST AQMD |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0.00848 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0.0332 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0.0395 |
| SOX - Oxides of Sulphur Tons/Yr: | 0.000237 |

**DESERT PALM CLEANERS (Continued)** **1000262612**

Particulate Matter Tons/Yr: 0.003
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Name: DESERT PALM CLEANERS
Address: 1529 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Year: 2012
County Code: 33
Air Basin: SC
Facility ID: 144384
Air District Name: SC
SIC Code: 7216
Air District Name: SOUTH COAST AQMD
Total Organic Hydrocarbon Gases Tons/Yr: 0.05225
Reactive Organic Gases Tons/Yr: 0.0209
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Name: DESERT PALM CLEANERS
Address: 1529 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Year: 2013
County Code: 33
Air Basin: SC
Facility ID: 144384
Air District Name: SC
SIC Code: 7216
Air District Name: SOUTH COAST AQMD
Total Organic Hydrocarbon Gases Tons/Yr: 0.069400822139
Reactive Organic Gases Tons/Yr: 0.06245
Carbon Monoxide Emissions Tons/Yr: 0.03822
NOX - Oxides of Nitrogen Tons/Yr: 0.0455
SOX - Oxides of Sulphur Tons/Yr: 0.00027
Particulate Matter Tons/Yr: 0.00345
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0.00345

Name: DESERT PALM CLEANERS
Address: 1529 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Year: 2016
County Code: 33
Air Basin: SC
Facility ID: 144384
Air District Name: SC
SIC Code: 7216
Air District Name: SOUTH COAST AQMD
Total Organic Hydrocarbon Gases Tons/Yr: 1.0173746526
Reactive Organic Gases Tons/Yr: 0.51223
Carbon Monoxide Emissions Tons/Yr: 0.03
NOX - Oxides of Nitrogen Tons/Yr: 0.04
SOX - Oxides of Sulphur Tons/Yr: 0.000243
Particulate Matter Tons/Yr: 0.00308
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0.00308

**DESERT PALM CLEANERS (Continued)** **1000262612**

| | |
|---|---|
| Name: | DESERT PALM CLEANERS |
| Address: | 1529 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Year: | 2017 |
| County Code: | 33 |
| Air Basin: | SC |
| Facility ID: | 144384 |
| Air District Name: | SC |
| SIC Code: | 7216 |
| Air District Name: | SOUTH COAST AQMD |
| Total Organic Hydrocarbon Gases Tons/Yr: | 1.0170791981 |
| Reactive Organic Gases Tons/Yr: | 0.5121 |
| Carbon Monoxide Emissions Tons/Yr: | 0.03 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0.03 |
| SOX - Oxides of Sulphur Tons/Yr: | 0.00023 |
| Particulate Matter Tons/Yr: | 0.00291 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0.00291 |

| | |
|---|---|
| Name: | DESERT PALM CLEANERS |
| Address: | 1529 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Year: | 2018 |
| County Code: | 33 |
| Air Basin: | SC |
| Facility ID: | 144384 |
| Air District Name: | SC |
| SIC Code: | 7216 |
| Air District Name: | SOUTH COAST AQMD |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0.038183951965 |
| Reactive Organic Gases Tons/Yr: | 0.018942 |
| Carbon Monoxide Emissions Tons/Yr: | 0.03108 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0.037 |
| SOX - Oxides of Sulphur Tons/Yr: | 0.000222 |
| Particulate Matter Tons/Yr: | 0.002812 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0.002812 |

| | |
|---|---|
| Name: | DESERT PALM CLEANERS |
| Address: | 1529 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Year: | 2019 |
| County Code: | 33 |
| Air Basin: | SC |
| Facility ID: | 144384 |
| Air District Name: | SC |
| SIC Code: | 7216 |
| Air District Name: | SOUTH COAST AQMD |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0.046252834458 |
| Reactive Organic Gases Tons/Yr: | 0.0229634 |
| Carbon Monoxide Emissions Tons/Yr: | 0.0356832 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0.04248 |
| SOX - Oxides of Sulphur Tons/Yr: | 0.00025488 |
| Particulate Matter Tons/Yr: | 0.00322848 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0.00322848 |

CERS:

| | |
|---|---|
| Name: | DESERT PALMS CLEANERS |
| Address: | 1529 W RAMSEY ST |

**DESERT PALM CLEANERS (Continued)** **1000262612**

City,State,Zip: BANNING, CA 92220
Site ID: 24863
CERS ID: 10328248
CERS Description: Chemical Storage Facilities

Violations:

Site ID: 24863
Site Name: Desert Palms Cleaners
Violation Date: 01-28-2015
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit a site map with all required content.
Violation Notes: Returned to compliance on 06/16/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 24863
Site Name: Desert Palms Cleaners
Violation Date: 01-28-2015
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to establish and electronically submit an adequate emergency response plan and procedures for a release or threatened release of a hazardous material.
Violation Notes: Returned to compliance on 06/16/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 24863
Site Name: Desert Palms Cleaners
Violation Date: 01-12-2021
Citation: HSC 6.95 25508(a)(3) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(3)
Violation Description: Failure to establish and electronically submit an adequate emergency response plan and procedures for a release or threatened release of a hazardous material.
Violation Notes: Returned to compliance on 04/30/2021. OBSERVATION: Observed an incomplete emergency response plan and procedures submitted to CERS. Specifically, Emergency Response/Contingency Plan submitted is blank. CORRECTIVE ACTION: Owner/operator shall update the emergency response plans and procedures. The following must be included: immediate notification contacts to the appropriate local emergency response personnel and to the unified program agency, procedures for the mitigation of a release or threatened release to minimize any potential harm or damage to persons, property, or the environment, and evacuation plans and procedures that includes immediate notice for the business site.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 24863
Site Name: Desert Palms Cleaners
Violation Date: 01-28-2015
Citation: HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95,

**DESERT PALM CLEANERS (Continued)** **1000262612**

| | |
|---|---|
| | Section(s) 25508(d) |
| Violation Description: | Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities. |
| Violation Notes: | Returned to compliance on 06/16/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 24863 |
| Site Name: | Desert Palms Cleaners |
| Violation Date: | 01-28-2015 |
| Citation: | HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple |
| Violation Description: | Business Plan Program - Administration/Documentation - General |
| Violation Notes: | Returned to compliance on 06/16/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 24863 |
| Site Name: | Desert Palms Cleaners |
| Violation Date: | 01-12-2021 |
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |
| Violation Notes: | Returned to compliance on 01/12/2021. OBSERVATION: No training records observed/provided during inspection. CORRECTIVE ACTION: Owner/operator shall provide training to all employees. Documentation shall be retained and be made available for inspection for a minimum period of 3 years from the date of the training. * Training conducted while on site. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 24863 |
| Site Name: | Desert Palms Cleaners |
| Violation Date: | 01-28-2015 |
| Citation: | 19 CCR 6.95 25508(a)(1) - California Code of Regulations, Title 19, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit the Business Activities Page and/or Business Owner Operator Identification Page. |
| Violation Notes: | Returned to compliance on 06/16/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 24863 |
| Site Name: | Desert Palms Cleaners |
| Violation Date: | 01-28-2015 |
| Citation: | HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507 |
| Violation Description: | Failure to adequately establish and implement a business plan when |

**DESERT PALM CLEANERS (Continued)** **1000262612**

| | |
|---|---|
| | storing/handling a hazardous material at or above reportable quantities. |
| Violation Notes: | Returned to compliance on 06/16/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 24863 |
| Site Name: | Desert Palms Cleaners |
| Violation Date: | 01-28-2015 |
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |
| Violation Notes: | Returned to compliance on 06/16/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 24863 |
| Site Name: | Desert Palms Cleaners |
| Violation Date: | 01-28-2015 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to establish and electronically submit an adequate training program in safety procedures in the event of a release or threatened release of a hazardous material. |
| Violation Notes: | Returned to compliance on 06/16/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 24863 |
| Site Name: | Desert Palms Cleaners |
| Violation Date: | 01-28-2015 |
| Citation: | HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2 |
| Violation Description: | Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date. |
| Violation Notes: | Returned to compliance on 06/16/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 24863 |
| Site Name: | Desert Palms Cleaners |
| Violation Date: | 01-12-2021 |
| Citation: | 40 CFR 1 265.33 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.33 |
| Violation Description: | Failure to test and maintain as necessary all facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment to assure its proper operation in time of emergency. |
| Violation Notes: | Returned to compliance on 04/30/2021. OBSERVATION: Observed fire extinguishers not properly maintained. Last serviced 2019. CORRECTIVE |

**DESERT PALM CLEANERS (Continued)** **1000262612**

ACTION: Owner/operator shall properly test and maintain all emergency equipment. Copies of invoices and pictures of serviced fire extinguishers can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 24863
Site Name: Desert Palms Cleaners
Violation Date: 01-28-2015
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: Returned to compliance on 06/16/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 24863
Site Name: Desert Palms Cleaners
Violation Date: 01-28-2015
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description: Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: Returned to compliance on 02/28/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-12-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-12-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: ** #43. Manifests are stored in "AQMD Annual Emissions Report" notebooks. **
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-28-2015
Violations Found: Yes

**DESERT PALM CLEANERS (Continued)** **1000262612**

Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 04-30-2021
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 04-30-2021
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-03-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-28-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 02-27-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Attempted to help with facility CERS submittal.
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-03-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Enforcement Action:
Site ID: 24863
Site Name: Desert Palms Cleaners

**DESERT PALM CLEANERS (Continued)** **1000262612**

| | |
|---|---|
| Site Address: | 1529 W RAMSEY ST |
| Site City: | BANNING |
| Site Zip: | 92220 |
| Enf Action Date: | 01-28-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Division: | Riverside County Department of Env Health |
| Enf Action Program: | HMRRP |
| Enf Action Source: | CERS, |

| | |
|---|---|
| Site ID: | 24863 |
| Site Name: | Desert Palms Cleaners |
| Site Address: | 1529 W RAMSEY ST |
| Site City: | BANNING |
| Site Zip: | 92220 |
| Enf Action Date: | 01-28-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Division: | Riverside County Department of Env Health |
| Enf Action Program: | HW |
| Enf Action Source: | CERS, |

Coordinates:

| | |
|---|---|
| Site ID: | 24863 |
| Facility Name: | Desert Palms Cleaners |
| Env Int Type Code: | HWG |
| Program ID: | 10328248 |
| Ref Point Type Desc: | Center of a facility or station., |
| Latitude: | 33.925860 |
| Longitude: | -116.893280 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | Riverside Cnty Env Health |
| Affiliation Address: | 4065 County Circle Drive, Room 104 |
| Affiliation City: | Riverside |
| Affiliation State: | CA |
| Affiliation Zip: | 92503 |
| Affiliation Phone: | (951) 358-5055, |

| | |
|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Maria Caballero |
| Affiliation Address: | 624 Falling Leaf Ln |
| Affiliation City: | Banning |
| Affiliation State: | CA |
| Affiliation Zip: | 92220 |
| Affiliation Phone: | , |

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Maria Soto |
| Affiliation Address: | 1529 W Ramsey St |
| Affiliation City: | Banning |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92220 |
| Affiliation Phone: | (951) 849-2141, |

**DESERT PALM CLEANERS (Continued)** **1000262612**

Affiliation Type Desc: Parent Corporation
Entity Name: Desert Palms Cleaners
Affiliation Phone: ,

Affiliation Type Desc: Property Owner
Entity Name: Carl Wolfram
Affiliation State: CA
Affiliation Country: United States
Affiliation Phone: (951) 634-5885,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Affiliation Address: 1529 W Ramsey St
Affiliation City: Banning
Affiliation State: CA
Affiliation Zip: 92220
Affiliation Phone: ,

Affiliation Type Desc: Operator
Entity Name: Maria Cabillero
Affiliation Phone: (951) 849-2141,

Affiliation Type Desc: Document Preparer
Entity Name: Maria Soto
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: Maria Soto
Entity Title: Owner
Affiliation Phone: ,

HWTS:
Name: DESERT PALMS CLEANERS
Address: 1529 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
EPA ID: CAL000466212
Create Date: 10/15/2021
Mailing Address: 1529 W RAMSEY ST
Mailing City,State,Zip: BANNING, CA 92220
Owner Name: JOSEFINA MARTINEZ
Owner Address: 217 DWYER AVE
Owner City,State,Zip: BEAUMONT, CA 92223
Contact Name: JOSEFINA MARTINEZ
Contact Address: 1529 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Facility Status: Active
Facility Type: PERMANENT
Category: STATE
Latitude: 33.925485
Longitude: -116.893526

**E13** **DESERT PALMS CLEANERS** **RCRA NonGen / NLR** **1024827757**
**NNW** **1529 W RAMSEY ST** **CAL000358184**
**1/8-1/4** **BANNING, CA 92220**
**0.162 mi.**
**857 ft.** **Site 2 of 5 in cluster E**

**Relative:** **Higher**

**Actual:** **2423 ft.**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 20211015 |
| Handler Name: | DESERT PALMS CLEANERS | |
| Handler Address: | | 1529 W RAMSEY ST |
| Handler City,State,Zip: | | BANNING, CA 92220 |
| EPA ID: | | CAL000466212 |
| Contact Name: | | MODESTO PONCE DELEON |
| Contact Address: | | 1529 W RAMSEY ST |
| Contact City,State,Zip: | | BANNING, CA 92220 |
| Contact Telephone: | | 951-849-2141 |
| Contact Fax: | | 951-922-8781 |
| Contact Email: | | LEONDEPONCE@VERIZON.NET |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Mailing Address: | | 1529 W RAMSEY ST |
| Mailing City,State,Zip: | | BANNING, CA 92220 |
| Owner Name: | JOSEFINA MARTINEZ | |
| Owner Type: | | Other |
| Operator Name: | MODESTO PONCE DELEON | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | No |
| Universal Waste Destination Facility: | | No |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |
| Institutional Control Indicator: | | No |
| Human Exposure Controls Indicator: | | N/A |
| Groundwater Controls Indicator: | | N/A |
| Significant Non-Complier Universe: | | No |
| Unaddressed Significant Non-Complier Universe: | | No |
| Addressed Significant Non-Complier Universe: | | No |
| Significant Non-Complier With a Compliance Schedule Universe: | | No |

**DESERT PALMS CLEANERS (Continued)** **1024827757**

Handler Date of Last Change: 20211018
Recognized Trader-Importer: No
Recognized Trader-Exporter: No
Importer of Spent Lead Acid Batteries: No
Exporter of Spent Lead Acid Batteries: No
Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: MODESTO PONCE DELEON
Legal Status: Other
Owner/Operator Address: 1529 W RAMSEY ST
Owner/Operator City,State,Zip: BANNING, CA 92220
Owner/Operator Telephone: 951-849-2141

Owner/Operator Indicator: Owner
Owner/Operator Name: JOSEFINA MARTINEZ
Legal Status: Other
Owner/Operator Address: 217 DWYER AVE
Owner/Operator City,State,Zip: BEAUMONT, CA 92223
Owner/Operator Telephone: 909-295-0183

Historic Generators:
Receive Date: 20211015
Handler Name: DESERT PALMS CLEANERS
Federal Waste Generator Description: Not a generator, verified
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

Date Form Received by Agency: 20211006
Handler Name: DESERT PALMS CLEANERS
Handler Address: 1529 W RAMSEY ST
Handler City,State,Zip: BANNING, CA 92220-4451
EPA ID: CAL000358184
Contact Name: MARIA SOTO

**DESERT PALMS CLEANERS (Continued)** **1024827757**

| | | |
|---|---|---|
| Contact Address: | | CHINABERRY |
| Contact City,State,Zip: | | BEAUMONT, CA 92223 |
| Contact Telephone: | | 650-504-0049 |
| Contact Email: | | TRINIDAD-MARIA@SBCGLOBAL.NET |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Mailing Address: | | W RAMSEY ST |
| Mailing City,State,Zip: | | BANNING, CA 92220-4451 |
| Owner Name: | MARIA SOTO | |
| Owner Type: | | Other |
| Operator Name: | MARIA SOTO | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | No |
| Universal Waste Destination Facility: | | No |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |
| Institutional Control Indicator: | | No |
| Human Exposure Controls Indicator: | | N/A |
| Groundwater Controls Indicator: | | N/A |
| Significant Non-Complier Universe: | | No |
| Unaddressed Significant Non-Complier Universe: | | No |
| Addressed Significant Non-Complier Universe: | | No |
| Significant Non-Complier With a Compliance Schedule Universe: | | No |
| Handler Date of Last Change: | | 20211012 |
| Recognized Trader-Importer: | | No |
| Recognized Trader-Exporter: | | No |
| Importer of Spent Lead Acid Batteries: | | No |
| Exporter of Spent Lead Acid Batteries: | | No |
| Recycler Activity Without Storage: | | No |
| Manifest Broker: | | No |
| Sub-Part P Indicator: | | No |

Handler - Owner Operator:
Owner/Operator Indicator: Operator

**DESERT PALMS CLEANERS (Continued)** **1024827757**

Owner/Operator Name: MARIA SOTO
Legal Status: Other
Owner/Operator Address: 1416 CHINABERRY
Owner/Operator City,State,Zip: BEAUMONT, CA 92223
Owner/Operator Telephone: 650-504-0049

Owner/Operator Indicator: Operator
Owner/Operator Name: MARIA SOTO
Legal Status: Other
Owner/Operator Address: 1529 W RAMSEY ST
Owner/Operator City,State,Zip: BANNING, CA 92220
Owner/Operator Telephone: 951-849-2141

Owner/Operator Indicator: Owner
Owner/Operator Name: MARIA SOTO
Legal Status: Other
Owner/Operator Address: 1416 CHINABERRY LN
Owner/Operator City,State,Zip: BEAUMONT, CA 92223-0000
Owner/Operator Telephone: 650-504-0049

Owner/Operator Indicator: Owner
Owner/Operator Name: MARIA SOTO
Legal Status: Other
Owner/Operator Address: 1416 CHINABERRY
Owner/Operator City,State,Zip: BEAUMONT, CA 92223
Owner/Operator Telephone: 650-504-0049

Historic Generators:
Receive Date: 20211006
Handler Name: DESERT PALMS CLEANERS
Federal Waste Generator Description: Not a generator, verified
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20101025
Handler Name: DESERT PALMS CLEANERS
Federal Waste Generator Description: Not a generator, verified
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

**DESERT PALMS CLEANERS (Continued)** **1024827757**

Evaluation Action Summary:
Evaluations: No Evaluations Found

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**E14** **CALIFORNIA COLLISION CENTER** **RCRA NonGen / NLR** **1024834185**
**NNW** **1585 W RAMSEY ST** **CAL000374326**
**1/8-1/4** **BANNING, CA 92220**
**0.188 mi.**
**993 ft.** **Site 3 of 5 in cluster E**

**Relative:** **Higher**

**Actual:** **2429 ft.**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 20120507 |
| Handler Name: | CALIFORNIA COLLISION CENTER | |
| Handler Address: | | 1585 W RAMSEY ST |
| Handler City,State,Zip: | | BANNING, CA 92220 |
| EPA ID: | | CAL000374326 |
| Contact Name: | | ANTHONY GONZALEZ |
| Contact Address: | | 1585 WEST RAMSEY ST |
| Contact City,State,Zip: | | BANNING, CA 92220 |
| Contact Telephone: | | 951-849-7400 |
| Contact Fax: | | 951-849-7400 |
| Contact Email: | | TONY711962@HOTMAIL.COM |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Active Site Indicator: | | Handler Activities |
| Mailing Address: | | 1585 W RAMSEY ST |
| Mailing City,State,Zip: | | BANNING, CA 92220-0000 |
| Owner Name: | ANTHONY GONZALEZ | |
| Owner Type: | | Other |
| Operator Name: | ANTHONY GONZALEZ | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | Yes |
| Universal Waste Destination Facility: | | Yes |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |

**CALIFORNIA COLLISION CENTER (Continued)** **1024834185**

| | |
|---|---|
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20180906 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: ANTHONY GONZALEZ | |
| Legal Status: | Other |
| Owner/Operator Address: | 1585 WEST RAMSEY ST |
| Owner/Operator City,State,Zip: | BANNING, CA 92220-0000 |
| Owner/Operator Telephone: | 951-849-7400 |
| | |
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: ANTHONY GONZALEZ | |
| Legal Status: | Other |
| Owner/Operator Address: | 1585 WEST RAMSEY ST |
| Owner/Operator City,State,Zip: | BANNING, CA 92220 |
| Owner/Operator Telephone: | 951-849-7400 |

Historic Generators:

| | |
|---|---|
| Receive Date: | 20120507 |
| Handler Name: CALIFORNIA COLLISION CENTER | |
| Federal Waste Generator Description: | Not a generator, verified |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |

List of NAICS Codes and Descriptions:

| | |
|---|---|
| NAICS Code: | 811121 |
| NAICS Description: | AUTOMOTIVE BODY, PAINT, AND INTERIOR REPAIR AND MAINTENANCE |

Facility Has Received Notices of Violations:

| | |
|---|---|
| Violations: | No Violations Found |

Evaluation Action Summary:

| | |
|---|---|
| Evaluations: | No Evaluations Found |

**E15**
**NNW**
**1/8-1/4**
**0.188 mi.**
**993 ft.**

**CALIBER COLLISION CENTERS**
**1585 W RAMSEY ST**
**BANNING, CA 92220**

**Site 4 of 5 in cluster E**

**RCRA NonGen / NLR** **1027093402**
**CAL000466961**

**Relative:**
**Higher**

**Actual:**
**2429 ft.**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 20211122 |
| Handler Name: | CALIBER COLLISION CENTERS | |
| Handler Address: | | 1585 W RAMSEY ST |
| Handler City,State,Zip: | | BANNING, CA 92220 |
| EPA ID: | | CAL000466961 |
| Contact Name: | | SHARON LAWERENCE |
| Contact Address: | | 2941 LAKE VISTA DR |
| Contact City,State,Zip: | | LEWISVILLE, TX 75067 |
| Contact Telephone: | | 469-948-9500 |
| Contact Fax: | | 972-906-7214 |
| Contact Email: | | LICENSEANDPERMITS@CALIBERCOLLISION.COM |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Mailing Address: | | 2941 LAKE VISTA DR |
| Mailing City,State,Zip: | | LEWISVILLE, TX 75067 |
| Owner Name: | CALIBER BODYWORKS LLC | |
| Owner Type: | | Other |
| Operator Name: | SHARON LAWERENCE | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | No |
| Universal Waste Destination Facility: | | No |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |
| Institutional Control Indicator: | | No |
| Human Exposure Controls Indicator: | | N/A |
| Groundwater Controls Indicator: | | N/A |
| Significant Non-Complier Universe: | | No |
| Unaddressed Significant Non-Complier Universe: | | No |
| Addressed Significant Non-Complier Universe: | | No |
| Significant Non-Complier With a Compliance Schedule Universe: | | No |

**CALIBER COLLISION CENTERS (Continued)** **1027093402**

Handler Date of Last Change: 20211129
Recognized Trader-Importer: No
Recognized Trader-Exporter: No
Importer of Spent Lead Acid Batteries: No
Exporter of Spent Lead Acid Batteries: No
Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: CALIBER BODYWORKS LLC
Legal Status: Other
Owner/Operator Address: 7 OLDFIELD BLVD
Owner/Operator City,State,Zip: IRVINE, CA 92618
Owner/Operator Telephone: 469-948-9500

Owner/Operator Indicator: Operator
Owner/Operator Name: SHARON LAWERENCE
Legal Status: Other
Owner/Operator Address: 2941 LAKE VISTA DR
Owner/Operator City,State,Zip: LEWISVILLE, TX 75067
Owner/Operator Telephone: 469-948-9500

Historic Generators:
Receive Date: 20211122
Handler Name: CALIBER COLLISION CENTERS
Federal Waste Generator Description: Not a generator, verified
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 811121
NAICS Description: AUTOMOTIVE BODY, PAINT, AND INTERIOR REPAIR AND MAINTENANCE

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

**E16** **RAMSEY STREET FORD** **RCRA-SQG** **1000427127**
**NNW** **1585 W RAMSEY ST** **CERS HAZ WASTE** **CAD982400798**
**1/8-1/4** **BANNING, CA 92220** **FINDS**
**0.188 mi.** **ECHO**
**993 ft.** **Site 5 of 5 in cluster E** **HAZNET**
**CERS**
**Relative:** **HWTS**
**Higher**

**Actual:** RCRA-SQG:
**2429 ft.**

| | | |
|---|---|---|
| Date Form Received by Agency: | | 19941129 |
| Handler Name: | RAMSEY STREET FORD | |
| Handler Address: | | 1585 W RAMSEY ST |
| Handler City,State,Zip: | | BANNING, CA 92220 |
| EPA ID: | | CAD982400798 |
| Contact Name: | | LOU RODEMAN |
| Contact Address: | | 1585 W RAMSEY ST |
| Contact City,State,Zip: | | BANNING, CA 92220 |
| Contact Telephone: | | 909-849-6221 |
| EPA Region: | | 09 |
| Land Type: | | Private |
| Federal Waste Generator Description: | | Small Quantity Generator |
| Active Site Indicator: | | Handler Activities |
| State District Owner: | | CA |
| State District: | | 4 |
| Mailing Address: | | 1585 W RAMSEY ST |
| Mailing City,State,Zip: | | BANNING, CA 92220 |
| Owner Name: | RAMSEY STREET AUTOMOTIVE INC | |
| Owner Type: | | Private |
| Operator Name: | NOT REQUIRED | |
| Operator Type: | | Private |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | No |
| Universal Waste Destination Facility: | | No |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | NN |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |
| Institutional Control Indicator: | | No |
| Human Exposure Controls Indicator: | | N/A |
| Groundwater Controls Indicator: | | N/A |

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20020627 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: NOT REQUIRED | |
| Legal Status: | Private |
| Owner/Operator Address: | NOT REQUIRED |
| Owner/Operator City,State,Zip: | NOT REQUIRED, ME 99999 |
| Owner/Operator Telephone: | 415-555-1212 |

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: RAMSEY STREET AUTOMOTIVE INC | |
| Legal Status: | Private |
| Owner/Operator Address: | 1585 W RAMSEY ST |
| Owner/Operator City,State,Zip: | BANNING, CA 92220 |
| Owner/Operator Telephone: | 909-849-6221 |

Historic Generators:

| | |
|---|---|
| Receive Date: | 19941129 |
| Handler Name: RAMSEY STREET FORD | |
| Federal Waste Generator Description: | Small Quantity Generator |
| State District Owner: | CA |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |

List of NAICS Codes and Descriptions:

| | |
|---|---|
| NAICS Codes: | No NAICS Codes Found |

Facility Has Received Notices of Violations:

| | |
|---|---|
| Violations: | No Violations Found |

Evaluation Action Summary:

| | |
|---|---|
| Evaluations: | No Evaluations Found |

CERS HAZ WASTE:

| | |
|---|---|
| Name: | CALIBER COLLISION CENTER - BANNING |
| Address: | 1585 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Site ID: | 599191 |

**RAMSEY STREET FORD (Continued)** **1000427127**

CERS ID: 10887766
CERS Description: Hazardous Waste Generator

FINDS:
Registry ID: 110002804001

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000427127
Registry ID: 110002804001
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002804001
Name: RAMSEY STREET FORD
Address: 1585 W RAMSEY ST
City,State,Zip: BANNING, CA 92220

HAZNET:
Name: RAMSEY STREET FORD
Address: 1585 W RAMSEY ST
City,State,Zip: BANNING, CA 922200000
Contact: SERVICE MANAGER
Telephone: 9518496221
Mailing Address: PO BOX 829

Year: 2009
Gepaid: CAD982400798
TSD EPA ID: CAT080013352
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons: 0.1251

Year: 2009
Gepaid: CAD982400798
TSD EPA ID: CAT080013352
CA Waste Code: 135 - Unspecified aqueous solution
Disposal Method: H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons: 0.126

Year: 2009
Gepaid: CAD982400798

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| TSD EPA ID: | CAT080013352 |
| CA Waste Code: | 343 - Unspecified organic liquid mixture |
| Disposal Method: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Tons: | 0.136 |
| | |
| Year: | 2008 |
| Gepaid: | CAD982400798 |
| TSD EPA ID: | CAT080013352 |
| CA Waste Code: | 343 - Unspecified organic liquid mixture |
| Disposal Method: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Tons: | 0.204 |
| | |
| Year: | 2008 |
| Gepaid: | CAD982400798 |
| TSD EPA ID: | CAD097030993 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.15 |
| | |
| Year: | 2007 |
| Gepaid: | CAD982400798 |
| TSD EPA ID: | CAD097030993 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.07 |
| | |
| Year: | 2007 |
| Gepaid: | CAD982400798 |
| TSD EPA ID: | CAT080013352 |
| CA Waste Code: | 343 - Unspecified organic liquid mixture |
| Disposal Method: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Tons: | 0.187 |
| | |
| Year: | 2006 |
| Gepaid: | CAD982400798 |
| TSD EPA ID: | CAD097030993 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | R01 - Recycler |
| Tons: | 0.0625 |
| | |
| Year: | 2006 |
| Gepaid: | CAD982400798 |
| TSD EPA ID: | CAT080033681 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | R01 - Recycler |
| Tons: | 0.035 |
| | |
| Year: | 2006 |
| Gepaid: | CAD982400798 |
| TSD EPA ID: | CAT080013352 |
| CA Waste Code: | 343 - Unspecified organic liquid mixture |
| Disposal Method: | R01 - Recycler |

**RAMSEY STREET FORD (Continued)** **1000427127**

Tons: 0.561

Click this hyperlink while viewing on your computer to access
31 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:

| | |
|---|---|
| Year: | 2008 |
| Gen EPA ID: | CAD982400798 |
| Shipment Date: | 20080412 |
| Creation Date: | 6/25/2008 18:30:27 |
| Receipt Date: | 20080423 |
| Manifest ID: | 004547861JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D018 |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.17 |
| Waste Quantity: | 50 |
| Quantity Unit: | G |
| Additional Code 1: | D001 |
| Shipment Date: | 20080412 |
| Creation Date: | 6/25/2008 18:30:27 |
| Receipt Date: | 20080423 |
| Manifest ID: | 004547861JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D018 |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.034 |
| Waste Quantity: | 10 |
| Quantity Unit: | G |
| Additional Code 1: | D001 |
| Shipment Date: | 20080317 |
| Creation Date: | 5/21/2008 18:30:28 |
| Receipt Date: | 20080328 |
| Manifest ID: | 003558534JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| Waste Code Description: | 352 - Other organic solids |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |

**RAMSEY STREET FORD (Continued)** **1000427127**

Quantity Unit: P

Additional Info:
Year: 2000
Gen EPA ID: CAD982400798

Shipment Date: 20000711
Creation Date: 8/16/2000 0:00:00
Receipt Date: 20000711
Manifest ID: 20221851
Trans EPA ID: CAD028277036
TSDF EPA ID: CAT080025711
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
Meth Code: H01 - Transfer Station
Quantity Tons: 0.462
Waste Quantity: 110
Quantity Unit: G

Shipment Date: 20000523
Creation Date: 7/12/2000 0:00:00
Receipt Date: 20000523
Manifest ID: 20093024
Trans EPA ID: CAD028277036
TSDF EPA ID: CAT080025711
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
Meth Code: H01 - Transfer Station
Quantity Tons: 0.231
Waste Quantity: 55
Quantity Unit: G

Shipment Date: 20000414
Creation Date: 5/30/2000 0:00:00
Receipt Date: 20000414
Manifest ID: 99772825
Trans EPA ID: CAD028277036
TSDF EPA ID: CAT080025711
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
Meth Code: H01 - Transfer Station
Quantity Tons: 0.462
Waste Quantity: 110
Quantity Unit: G

Shipment Date: 20000210
Creation Date: 4/4/2000 0:00:00
Receipt Date: 20000210
Manifest ID: 99772850
Trans EPA ID: CAD028277036
TSDF EPA ID: CAT080025711
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
Meth Code: H01 - Transfer Station
Quantity Tons: 0.462
Waste Quantity: 110
Quantity Unit: G

Additional Info:
Year: 2009

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Gen EPA ID: | CAD982400798 |
| Shipment Date: | 20090224 |
| Creation Date: | 4/14/2009 18:30:22 |
| Receipt Date: | 20090304 |
| Manifest ID: | 004548395JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D018 |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.102 |
| Waste Quantity: | 30 |
| Quantity Unit: | G |
| Additional Code 1: | D001 |
| Shipment Date: | 20090224 |
| Creation Date: | 4/14/2009 18:30:22 |
| Receipt Date: | 20090304 |
| Manifest ID: | 004548395JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| Waste Code Description: | 135 - Unspecified aqueous solution |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.126 |
| Waste Quantity: | 30 |
| Quantity Unit: | G |
| Shipment Date: | 20090224 |
| Creation Date: | 4/14/2009 18:30:22 |
| Receipt Date: | 20090304 |
| Manifest ID: | 004548395JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.1251 |
| Waste Quantity: | 30 |
| Quantity Unit: | G |
| Shipment Date: | 20090224 |
| Creation Date: | 4/14/2009 18:30:22 |
| Receipt Date: | 20090304 |
| Manifest ID: | 004548395JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D018 |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.034 |
| Waste Quantity: | 10 |
| Quantity Unit: | G |
| Additional Code 1: | D001 |

Additional Info:

| | |
|---|---|
| Year: | 2005 |
| Gen EPA ID: | CAD982400798 |
| Shipment Date: | 20051018 |
| Creation Date: | 12/22/2006 18:30:28 |
| Receipt Date: | 20051018 |
| Manifest ID: | 24371071 |
| Trans EPA ID: | TXR000050930 |
| Trans Name: | SAFETY-KLEEN SYSTEMS INC |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 222 - Oil/water separation sludge |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.89655 |
| Waste Quantity: | 215 |
| Quantity Unit: | G |
| Shipment Date: | 20050721 |
| Creation Date: | 10/28/2005 18:30:54 |
| Receipt Date: | 20050728 |
| Manifest ID: | 24476894 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| Waste Code Description: | 352 - Other organic solids |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.125 |
| Waste Quantity: | 250 |
| Quantity Unit: | P |
| Shipment Date: | 20050331 |
| Creation Date: | 6/12/2005 18:30:59 |
| Receipt Date: | 20050331 |
| Manifest ID: | 24262998 |
| Trans EPA ID: | TXR000050930 |
| Trans Name: | SAFETY-KLEEN SYSTEMS INC |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO/KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 222 - Oil/water separation sludge |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 1.1676 |
| Waste Quantity: | 280 |
| Quantity Unit: | G |

**RAMSEY STREET FORD (Continued)** **1000427127**

Additional Info:

| | |
|---|---|
| Year: | 1999 |
| Gen EPA ID: | CAD982400798 |
| Shipment Date: | 19991109 |
| Creation Date: | 1/11/2000 0:00:00 |
| Receipt Date: | 19991109 |
| Manifest ID: | 99127000 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080025711 |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.462 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |
| Shipment Date: | 19990903 |
| Creation Date: | 10/26/1999 0:00:00 |
| Receipt Date: | 19990903 |
| Manifest ID: | 99242474 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| Waste Code Description: | 133 - Aqueous solution with 10% or more total organic residues |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.417 |
| Waste Quantity: | 100 |
| Quantity Unit: | G |
| Shipment Date: | 19990802 |
| Creation Date: | 9/23/1999 0:00:00 |
| Receipt Date: | 19990802 |
| Manifest ID: | 98501178 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080025711 |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.336 |
| Waste Quantity: | 80 |
| Quantity Unit: | G |
| Shipment Date: | 19990415 |
| Creation Date: | 5/27/1999 0:00:00 |
| Receipt Date: | 19990415 |
| Manifest ID: | 98847014 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080025711 |
| TSDF Alt EPA ID: | CAT080025711 |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.252 |
| Waste Quantity: | 60 |
| Quantity Unit: | G |
| Shipment Date: | 19990224 |
| Creation Date: | 4/5/1999 0:00:00 |
| Manifest ID: | 98501190 |

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080025711 |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| Meth Code: | - Not reported |
| Quantity Tons: | 0.21 |
| Waste Quantity: | 50 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 1998 |
| Gen EPA ID: | CAD982400798 |
| Shipment Date: | 19981230 |
| Creation Date: | 3/1/1999 0:00:00 |
| Receipt Date: | 19981230 |
| Manifest ID: | 98505841 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080025711 |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.252 |
| Waste Quantity: | 60 |
| Quantity Unit: | G |
| Shipment Date: | 19980827 |
| Creation Date: | 11/2/1998 0:00:00 |
| Receipt Date: | 19980827 |
| Manifest ID: | 98168255 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| Waste Code Description: | 133 - Aqueous solution with 10% or more total organic residues |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.4587 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |
| Shipment Date: | 19980722 |
| Creation Date: | 10/1/1998 0:00:00 |
| Receipt Date: | 19980723 |
| Manifest ID: | 98162552 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| Waste Code Description: | 133 - Aqueous solution with 10% or more total organic residues |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.2919 |
| Waste Quantity: | 70 |
| Quantity Unit: | G |
| Shipment Date: | 19980618 |
| Creation Date: | 9/3/1998 0:00:00 |
| Receipt Date: | 19980619 |
| Manifest ID: | 98260190 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 133 - Aqueous solution with 10% or more total organic residues |
| Meth Code: | R01 - Recycler |

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Quantity Tons: | 0.2085 |
| Waste Quantity: | 50 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 19980220 |
| Creation Date: | 5/8/1998 0:00:00 |
| Receipt Date: | 19980220 |
| Manifest ID: | 96835038 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 222 - Oil/water separation sludge |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.417 |
| Waste Quantity: | 100 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 19980220 |
| Creation Date: | 5/8/1998 0:00:00 |
| Receipt Date: | 19980220 |
| Manifest ID: | 96835032 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| Waste Code Description: | 222 - Oil/water separation sludge |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 3.4402 |
| Waste Quantity: | 825 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 19980122 |
| Creation Date: | 4/16/1998 0:00:00 |
| Receipt Date: | 19980123 |
| Manifest ID: | 97231079 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 133 - Aqueous solution with 10% or more total organic residues |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.4587 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 2007 |
| Gen EPA ID: | CAD982400798 |
| | |
| Shipment Date: | 20070130 |
| Creation Date: | 8/9/2007 18:30:52 |
| Receipt Date: | 20070207 |
| Manifest ID: | 002117252JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO/KERDOON |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D018 |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid |

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| | Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| Additional Code 1: | D001 |
| | |
| Shipment Date: | 20070130 |
| Creation Date: | 8/9/2007 18:30:32 |
| Receipt Date: | 20070208 |
| Manifest ID: | 002117251JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| Waste Code Description: | 352 - Other organic solids |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.07 |
| Waste Quantity: | 140 |
| Quantity Unit: | P |

Additional Info:

| | |
|---|---|
| Year: | 1994 |
| Gen EPA ID: | CAD982400798 |
| | |
| Shipment Date: | 19941220 |
| Creation Date: | 3/28/1996 0:00:00 |
| Receipt Date: | 19941221 |
| Manifest ID: | 93703365 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 135 - Unspecified aqueous solution |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.42 |
| Waste Quantity: | 100 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 19940819 |
| Creation Date: | 10/16/1995 0:00:00 |
| Receipt Date: | 19940819 |
| Manifest ID: | 93722237 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| Waste Code Description: | 135 - Unspecified aqueous solution |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.231 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 19940607 |
| Creation Date: | 3/26/1996 0:00:00 |
| Receipt Date: | 19940608 |
| Manifest ID: | 93718447 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080025711 |
| Waste Code Description: | 135 - Unspecified aqueous solution |

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.231 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 19940308 |
| Creation Date: | 3/25/1996 0:00:00 |
| Receipt Date: | 19940308 |
| Manifest ID: | 93322263 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 135 - Unspecified aqueous solution |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.231 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 2001 |
| Gen EPA ID: | CAD982400798 |
| | |
| Shipment Date: | 20011029 |
| Creation Date: | 1/16/2002 0:00:00 |
| Receipt Date: | 20011029 |
| Manifest ID: | 21386291 |
| Trans EPA ID: | SCR000075150 |
| TSDF EPA ID: | CAT000613927 |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| RCRA Code: | D039 |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.0798 |
| Waste Quantity: | 19 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20010904 |
| Creation Date: | 10/23/2001 0:00:00 |
| Receipt Date: | 20010904 |
| Manifest ID: | 21114940 |
| Trans EPA ID: | SCR000075150 |
| TSDF EPA ID: | CAT000613927 |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| RCRA Code: | D039 |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.0546 |
| Waste Quantity: | 13 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20010710 |
| Creation Date: | 8/24/2001 0:00:00 |
| Receipt Date: | 20010710 |
| Manifest ID: | 21131539 |
| Trans EPA ID: | SCR000075150 |
| TSDF EPA ID: | CAT000613927 |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| RCRA Code: | D039 |
| Meth Code: | H01 - Transfer Station |

**RAMSEY STREET FORD (Continued)** **1000427127**

Quantity Tons: 0.1092
Waste Quantity: 26
Quantity Unit: G

Shipment Date: 20010514
Creation Date: 7/10/2001 0:00:00
Receipt Date: 20010515
Manifest ID: 20642636
Trans EPA ID: SCR000075150
TSDF EPA ID: CAT000613927
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
RCRA Code: D039
Meth Code: H01 - Transfer Station
Quantity Tons: 0.126
Waste Quantity: 30
Quantity Unit: G

Shipment Date: 20010316
Creation Date: 5/16/2001 0:00:00
Receipt Date: 20010319
Manifest ID: 20614208
Trans EPA ID: SCR000075150
TSDF EPA ID: CAT000613927
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
RCRA Code: D039
Meth Code: H01 - Transfer Station
Quantity Tons: 0.1176
Waste Quantity: 28
Quantity Unit: G

Shipment Date: 20010122
Creation Date: 3/22/2001 0:00:00
Receipt Date: 20010122
Manifest ID: 20391981
Trans EPA ID: SCR000075150
TSDF EPA ID: CAT000613927
TSDF Alt EPA ID: CAT000613927
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
RCRA Code: D039
Meth Code: H01 - Transfer Station
Quantity Tons: 0.084
Waste Quantity: 20
Quantity Unit: G

Additional Info:
Year: 2004
Gen EPA ID: CAD982400798

Shipment Date: 20040928
Creation Date: 12/31/2004 18:30:54
Receipt Date: 20040928
Manifest ID: 23727425
Trans EPA ID: TXR000050930
Trans Name: SAFETY-KLEEN SYSTEMS INC
TSDF EPA ID: CAT080013352
Trans Name: DEMENNO/KERDOON
TSDF Alt EPA ID: CAT080013352

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Waste Code Description: | 222 - Oil/water separation sludge |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 1.1676 |
| Waste Quantity: | 280 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20040917 |
| Creation Date: | 12/21/2004 18:31:57 |
| Receipt Date: | 20040923 |
| Manifest ID: | 23587178 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20040917 |
| Creation Date: | 12/21/2004 18:31:57 |
| Receipt Date: | 20040923 |
| Manifest ID: | 23587179 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D / K - ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | NONE |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20040330 |
| Creation Date: | 10/14/2004 7:49:48 |
| Receipt Date: | 20040330 |
| Manifest ID: | 23342142 |
| Trans EPA ID: | TXR000050930 |
| Trans Name: | SAFETY-KLEEN SYSTEMS INC |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO/KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 222 - Oil/water separation sludge |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.5838 |
| Waste Quantity: | 140 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20040302 |
| Creation Date: | 10/1/2004 18:31:09 |
| Receipt Date: | 20040315 |
| Manifest ID: | 23332230 |

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D / K - ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| Waste Code Description: | 352 - Other organic solids |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20040226 |
| Creation Date: | 8/23/2004 8:48:57 |
| Receipt Date: | 20040305 |
| Manifest ID: | 23332147 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 2006 |
| Gen EPA ID: | CAD982400798 |
| | |
| Shipment Date: | 20061108 |
| Creation Date: | 3/30/2007 13:33:02 |
| Receipt Date: | 20061109 |
| Manifest ID: | 000199707CEX |
| Trans EPA ID: | TXR000050930 |
| Trans Name: | SAFETY-KLEEN SYSTEMS INC |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO/KERDOON 050122 |
| Waste Code Description: | 222 - Oil/water separation sludge |
| Meth Code: | H135 - Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment) |
| Quantity Tons: | 0.6255 |
| Waste Quantity: | 150 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20061023 |
| Creation Date: | 3/30/2007 13:32:34 |
| Receipt Date: | 20061101 |
| Manifest ID: | 001597897JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D018 |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid |

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| | Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.102 |
| Waste Quantity: | 30 |
| Quantity Unit: | G |
| Additional Code 1: | D001 |
| | |
| Shipment Date: | 20060802 |
| Creation Date: | 9/27/2006 18:36:37 |
| Receipt Date: | 20060817 |
| Manifest ID: | 24829180 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US FILTER RECOVERY SERVICES CALIFORNIA |
| Waste Code Description: | 352 - Other organic solids |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20060802 |
| Creation Date: | 10/5/2006 18:32:01 |
| Receipt Date: | 20060816 |
| Manifest ID: | 24829181 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20060522 |
| Creation Date: | 12/20/2006 18:30:06 |
| Receipt Date: | 20060522 |
| Manifest ID: | 25028528 |
| Trans EPA ID: | TXR000050930 |
| Trans Name: | SAFETY KLEEN SYSTEMS INC |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 222 - Oil/water separation sludge |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 1.251 |
| Waste Quantity: | 300 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20060412 |
| Creation Date: | 8/4/2006 18:31:20 |
| Receipt Date: | 20060421 |
| Manifest ID: | 24837290 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US FILTER RECOVERY SERVICES CALIFORNIA |
| Waste Code Description: | 352 - Other organic solids |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.0625 |
| Waste Quantity: | 125 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20060412 |
| Creation Date: | 8/10/2006 18:35:36 |
| Receipt Date: | 20060421 |
| Manifest ID: | 24837291 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20060207 |
| Creation Date: | 6/14/2006 18:34:03 |
| Receipt Date: | 20060207 |
| Manifest ID: | 25015636 |
| Trans EPA ID: | TXR000050930 |
| Trans Name: | SAFETY-KLEEN SYSTEMS INC |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 222 - Oil/water separation sludge |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 1.0425 |
| Waste Quantity: | 250 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20060112 |
| Creation Date: | 5/5/2006 18:30:35 |
| Receipt Date: | 20060120 |
| Manifest ID: | 24836314 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20060112 |
| Creation Date: | 5/5/2006 18:31:40 |

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Receipt Date: | 20060120 |
| Manifest ID: | 24837192 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| Waste Code Description: | 352 - Other organic solids |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.035 |
| Waste Quantity: | 70 |
| Quantity Unit: | P |

Additional Info:

| | |
|---|---|
| Year: | 1996 |
| Gen EPA ID: | CAD982400798 |
| | |
| Shipment Date: | 19961106 |
| Creation Date: | 5/20/1997 0:00:00 |
| Receipt Date: | 19961106 |
| Manifest ID: | 96347404 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| Waste Code Description: | 133 - Aqueous solution with 10% or more total organic residues |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.4587 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 19960726 |
| Creation Date: | 5/20/1997 0:00:00 |
| Receipt Date: | 19960726 |
| Manifest ID: | 96004445 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| Waste Code Description: | 133 - Aqueous solution with 10% or more total organic residues |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.417 |
| Waste Quantity: | 100 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 19960530 |
| Creation Date: | 5/30/1997 0:00:00 |
| Receipt Date: | 19960531 |
| Manifest ID: | 96010139 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| Waste Code Description: | 133 - Aqueous solution with 10% or more total organic residues |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.4587 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 19960314 |
| Creation Date: | 10/16/1996 0:00:00 |
| Receipt Date: | 19960314 |
| Manifest ID: | 95811539 |

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 133 - Aqueous solution with 10% or more total organic residues |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.4587 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 19960223 |
| Creation Date: | 10/16/1996 0:00:00 |
| Receipt Date: | 19960301 |
| Manifest ID: | 96246920 |
| Trans EPA ID: | ILD984908202 |
| Trans 2 EPA ID: | ILD984908202 |
| TSDF EPA ID: | CAD093459485 |
| TSDF Alt EPA ID: | CAD093459485 |
| Waste Code Description: | 214 - Unspecified solvent mixture |
| RCRA Code: | D039 |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.0288 |
| Waste Quantity: | 8 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 2003 |
| Gen EPA ID: | CAD982400798 |
| | |
| Shipment Date: | 20030930 |
| Creation Date: | 8/3/2004 15:01:39 |
| Receipt Date: | 20030930 |
| Manifest ID: | 22652490 |
| Trans EPA ID: | TXR000050930 |
| Trans Name: | SAFETY-KLEEN SYSTEMS INC |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 222 - Oil/water separation sludge |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.89655 |
| Waste Quantity: | 215 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20030919 |
| Creation Date: | 8/3/2004 15:02:31 |
| Receipt Date: | 20031001 |
| Manifest ID: | 22812287 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |

**RAMSEY STREET FORD (Continued)** **1000427127**

Quantity Unit: G

Shipment Date: 20030331
Creation Date: 7/13/2003 18:31:11
Receipt Date: 20030331
Manifest ID: 22329993
Trans EPA ID: TXR000050930
TSDF EPA ID: CAT080013352
TSDF Alt EPA ID: CAT080013352
Waste Code Description: 222 - Oil/water separation sludge
Meth Code: R01 - Recycler
Quantity Tons: 0.62133
Waste Quantity: 149
Quantity Unit: G

Additional Info:
Year: 1995
Gen EPA ID: CAD982400798

Shipment Date: 19951220
Creation Date: 9/18/1996 0:00:00
Receipt Date: 19951220
Manifest ID: 95391035
Trans EPA ID: CAD028277036
TSDF EPA ID: CAT080013352
TSDF Alt EPA ID: CAT080013352
Waste Code Description: 133 - Aqueous solution with 10% or more total organic residues
Meth Code: R01 - Recycler
Quantity Tons: 0.3127
Waste Quantity: 75
Quantity Unit: G

Shipment Date: 19951128
Creation Date: 7/26/1996 0:00:00
Receipt Date: 19951204
Manifest ID: 95813227
Trans EPA ID: ILD984908202
Trans 2 EPA ID: ILD984908202
TSDF EPA ID: CAD093459485
Waste Code Description: 214 - Unspecified solvent mixture
RCRA Code: D039
Meth Code: H01 - Transfer Station
Quantity Tons: 0.0288
Waste Quantity: 8
Quantity Unit: G

Shipment Date: 19951004
Creation Date: 7/26/1996 0:00:00
Receipt Date: 19951004
Manifest ID: 95493065
Trans EPA ID: CAD028277036
TSDF EPA ID: CAT080013352
Waste Code Description: 133 - Aqueous solution with 10% or more total organic residues
Meth Code: R01 - Recycler
Quantity Tons: 0.4587
Waste Quantity: 110
Quantity Unit: G

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Shipment Date: | 19950719 |
| Creation Date: | 4/3/1996 0:00:00 |
| Receipt Date: | 19950720 |
| Manifest ID: | 95497794 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 133 - Aqueous solution with 10% or more total organic residues |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.4587 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |

| | |
|---|---|
| Shipment Date: | 19950612 |
| Creation Date: | 4/2/1996 0:00:00 |
| Receipt Date: | 19950616 |
| Manifest ID: | 95516297 |
| Trans EPA ID: | ILD984908202 |
| Trans 2 EPA ID: | ILD984908202 |
| TSDF EPA ID: | CAD093459485 |
| TSDF Alt EPA ID: | CAD093459485 |
| Waste Code Description: | 214 - Unspecified solvent mixture |
| RCRA Code: | D039 |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.0144 |
| Waste Quantity: | 4 |
| Quantity Unit: | G |

| | |
|---|---|
| Shipment Date: | 19950413 |
| Creation Date: | 4/2/1996 0:00:00 |
| Receipt Date: | 19950414 |
| Manifest ID: | 95123738 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| Waste Code Description: | 135 - Unspecified aqueous solution |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.462 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 1993 |
| Gen EPA ID: | CAD982400798 |

| | |
|---|---|
| Shipment Date: | 19931215 |
| Creation Date: | 9/14/1995 0:00:00 |
| Receipt Date: | 19931215 |
| Manifest ID: | 93045558 |
| Trans EPA ID: | CAD028277036 |
| TSDF EPA ID: | CAT080013352 |
| TSDF Alt EPA ID: | CAT080013352 |
| Waste Code Description: | 135 - Unspecified aqueous solution |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.231 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

**RAMSEY STREET FORD (Continued)** **1000427127**

Shipment Date: 19930916
Creation Date: 9/13/1995 0:00:00
Manifest ID: 93150943
Trans EPA ID: CAD028277036
TSDF EPA ID: CAT080013352
Waste Code Description: 135 - Unspecified aqueous solution
Meth Code: - Not reported
Quantity Tons: 0.231
Waste Quantity: 55
Quantity Unit: G

Additional Info:
Year: 2002
Gen EPA ID: CAD982400798

Shipment Date: 20021004
Creation Date: 2/10/2003 18:31:16
Receipt Date: 20021004
Manifest ID: 22190192
Trans EPA ID: SCR000075150
TSDF EPA ID: CAT080013352
Waste Code Description: 222 - Oil/water separation sludge
Meth Code: R01 - Recycler
Quantity Tons: 0.72975
Waste Quantity: 175
Quantity Unit: G

Additional Info:
Year: 1997
Gen EPA ID: CAD982400798

Shipment Date: 19970603
Creation Date: 12/4/1997 0:00:00
Receipt Date: 19970603
Manifest ID: 96825693
Trans EPA ID: CAD028277036
TSDF EPA ID: CAT080013352
Waste Code Description: 133 - Aqueous solution with 10% or more total organic residues
Meth Code: R01 - Recycler
Quantity Tons: 0.4587
Waste Quantity: 110
Quantity Unit: G

CERS:
Name: CALIBER COLLISION CENTER - BANNING
Address: 1585 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 599191
CERS ID: 10887766
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 599191
Site Name: Caliber Collision Center - Banning
Violation Date: 03-02-2022

**RAMSEY STREET FORD (Continued)** **1000427127**

| | |
|---|---|
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 599191 |
| Site Name: | Caliber Collision Center - Banning |
| Violation Date: | 03-02-2022 |
| Citation: | 22 CCR 12 66262.11 - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.11 |
| Violation Description: | Failure to determine if wastes generated are hazardous waste by using generator knowledge or applying testing method. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 599191 |
| Site Name: | Caliber Collision Center - Banning |
| Violation Date: | 03-02-2022 |
| Citation: | Un-Specified |
| Violation Description: | Business Plan Program - Administration/Documentation - General Local Ordinance |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 599191 |
| Site Name: | Caliber Collision Center - Banning |
| Violation Date: | 03-02-2022 |
| Citation: | Un-Specified |
| Violation Description: | Hazardous Waste Generator Program - Administration/Documentation - General Local Ordinance |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 599191 |
| Site Name: | Caliber Collision Center - Banning |
| Violation Date: | 03-02-2022 |
| Citation: | 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f) |
| Violation Description: | Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |

**RAMSEY STREET FORD (Continued)** **1000427127**

Eval Date: 03-02-2022
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-02-2022
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: Allison Kahl
Affiliation Phone: ,

Affiliation Type Desc: Operator
Entity Name: Caliber Collision Center - Banning
Affiliation Phone: (951) 849-7400,

Affiliation Type Desc: Legal Owner
Entity Name: Caliber Bodyworks LLC
Affiliation Address: 2941 Lake Vista
Affiliation City: Lewisville
Affiliation State: TX
Affiliation Country: United States
Affiliation Zip: 75067
Affiliation Phone: (469) 948-9500,

Affiliation Type Desc: Environmental Contact
Entity Name: Khurram Kazmi
Affiliation Address: 7871 Cherry Ave
Affiliation City: Fontana
Affiliation State: CA
Affiliation Zip: 92336
Affiliation Phone: ,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Affiliation Address: 1585 W Ramsey St
Affiliation City: Banning
Affiliation State: CA
Affiliation Zip: 92220
Affiliation Phone: ,

Affiliation Type Desc: Parent Corporation
Entity Name: Caliber Bodyworks, Inc. dba Caliber Collision Centers
Affiliation Phone: ,

Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside

**RAMSEY STREET FORD (Continued)** **1000427127**

Affiliation State: CA
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055,

Affiliation Type Desc: Identification Signer
Entity Name: Steven Monroe
Entity Title: Center Manager
Affiliation Phone: ,

HWTS:
Name: RAMSEY STREET FORD
Address: 1585 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
EPA ID: CAD982400798
Inactive Date: 06/30/2010
Create Date: 06/29/1990
Mailing Address: PO BOX 829
Mailing City,State,Zip: FULLERTON, CA 928320000
Owner Name: TIMOTHY MULLAHEY
Owner Address: 1585 W RAMSEY ST
Owner City,State,Zip: BANNING, CA 922204451
Contact Name: SERVICE MANAGER
Contact Address: 1585 W RAMSEY ST
City,State,Zip: BANNING, CA 922204451
Facility Status: Inactive
Facility Type: PERMANENT
Category: FEDERAL
Latitude: 33.92548
Longitude: -116.894077

NAICS:
EPA ID: CAD982400798
Create Date: 2002-03-14 16:36:27.000
NAICS Code: 44111
NAICS Description: New Car Dealers
Issued EPA ID Date: 1990-06-29 00:00:00
Inactive Date: 2010-06-30 00:00:00
Facility Name: RAMSEY STREET FORD
Facility Address: 1585 W RAMSEY ST
Facility City: BANNING
Facility State: CA
Facility Zip: 922200000

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**C17** **TEXACO MIKE'S** **LUST** **S106152947**
**NNW** **1601 WEST RAMSEY STREET** **Cortese** **N/A**
**1/8-1/4** **BANNING, CA 92220**
**0.202 mi.**
**1068 ft.** **Site 2 of 3 in cluster C**

**Relative:**
**Higher**

**Actual:**
**2432 ft.**

LUST:
Name: TEXACO MIKE'S
Address: 1601 WEST RAMSEY STREET
City,State,Zip: BANNING, CA 92220
Lead Agency: RIVERSIDE COUNTY LOP
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606500730

**TEXACO MIKE'S (Continued)** **S106152947**

Global Id: T0606500730
Latitude: 33.9256520443388
Longitude: -116.8948137295
Status: Completed - Case Closed
Status Date: 07/09/1998
Case Worker: RIV
RB Case Number: 7T2220016
Local Agency: RIVERSIDE COUNTY LOP
File Location: Local Agency Warehouse
Local Case Number: 970535
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline

LUST:
Global Id: T0606500730
Contact Type: Regional Board Caseworker
Contact Name: Phan Le
Organization Name: COLORADO RIVER BASIN RWQCB (REGION 7)
Address: 73720 FRED WARING DRIVE SUITE #100
City: PALM DESERT
Email: phan.le@waterboards.ca.gov
Phone Number: 7607768974

Global Id: T0606500730
Contact Type: Local Agency Caseworker
Contact Name: Riverside County LOP
Organization Name: RIVERSIDE COUNTY LOP
Address: 3880 LEMON ST SUITE 200
City: RIVERSIDE
Phone Number: 9519558980

LUST:
Global Id: T0606500730
Action Type: Other
Date: 05/20/1997
Action: Leak Reported

Global Id: T0606500730
Action Type: Other
Date: 04/08/1997
Action: Leak Stopped

Global Id: T0606500730
Action Type: ENFORCEMENT
Date: 07/09/1998
Action: Closure/No Further Action Letter - #Riv Co Closure

Global Id: T0606500730
Action Type: ENFORCEMENT
Date: 07/08/1998
Action: File review - #RCDEH Upload Site File 10/29/2015

Global Id: T0606500730
Action Type: Other
Date: 05/20/1997
Action: Leak Discovery

**TEXACO MIKE'S (Continued)** **S106152947**

LUST:
Global Id: T0606500730
Status: Open - Case Begin Date
Status Date: 04/08/1997

Global Id: T0606500730
Status: Completed - Case Closed
Status Date: 07/09/1998

LUST REG 7:
Region: 7
Status: 9 - Case Closed
Case Num: 7T2220016
Substance: Gasoline - Automotive
ID: 945
Global ID: T0606500730
Lead Agency: Local Agency
Case Worker: KO

CORTESE:
Name: TEXACO MIKE'S
Address: 1601 WEST RAMSEY STREET
City,State,Zip: BANNING, CA 92220
Region: CORTESE
Global ID: T0606500730
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Flag: active
File Name: Active Open

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**C18** **TEXACO MIKE'S** **LUST S102618811**
**NNW** **1601 WEST RAMSEY STREET** **CERS N/A**
**1/8-1/4** **BANNING, CA 92220**
**0.202 mi.**
**1068 ft.** **Site 3 of 3 in cluster C**

**Relative: Higher**
**Actual: 2432 ft.**

RIVERSIDE CO. LUST:
Name: TEXACO MIKE'S
Address: 1601 W RAMSEY ST
City,State,Zip: BANNING, CA
Region: RIVERSIDE
Facility ID: 970535
Employee: Shurlow-LOP
Site Closed: Yes
Case Type: Soil only
Facility Status: closed/action completed
Casetype Decode: Soil only is impacted
Fstatus Decode: Closed/Action completed

CERS:
Name: TEXACO MIKE'S
Address: 1601 WEST RAMSEY STREET
City,State,Zip: BANNING, CA 92220
Site ID: 250294
CERS ID: T0606500730

**TEXACO MIKE'S (Continued)** **S102618811**

CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Regional Board Caseworker
Entity Name: Phan Le - COLORADO RIVER BASIN RWQCB (REGION 7)
Affiliation Address: 73720 FRED WARING DRIVE SUITE #100
Affiliation City: PALM DESERT
Affiliation State: CA
Affiliation Phone: 7607768974,

Affiliation Type Desc: Local Agency Caseworker
Entity Name: Riverside County LOP - RIVERSIDE COUNTY LOP
Affiliation Address: 3880 LEMON ST SUITE 200
Affiliation City: RIVERSIDE
Affiliation State: CA
Affiliation Phone: 9519558980,

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**F19** **RITE AID #5672** **RCRA-SQG** **1014387430**
**ENE** **806 RAMSEY STREET** **CERS HAZ WASTE** **CAR000209643**
**1/8-1/4** **BANNING, CA 92220** **HAZNET**
**0.206 mi.** **CERS**
**1086 ft.** **Site 1 of 4 in cluster F** **HWTS**

**Relative:** **Lower**
**Actual:** **2378 ft.**

RCRA-SQG:
Date Form Received by Agency: 20220316
Handler Name: RITE AID #5672
Handler Address: 806 RAMSEY STREET
Handler City,State,Zip: BANNING, CA 92220-0000
EPA ID: CAR000209643
Contact Name: JOSEPH A CHEST
Contact Address: HUNTER LANE
Contact City,State,Zip: CAMP HILL, PA 17011
Contact Telephone: 717-975-8643
Contact Fax: 717-972-3989
Contact Email: EHS@RITEAID.COM
Contact Title: MANGER, ENVIRONMENTAL HEALTH SERVICES
EPA Region: 09
Land Type: Private
Federal Waste Generator Description: Small Quantity Generator
Active Site Indicator: Handler Activities
Mailing Address: HUNTER LANE
Mailing City,State,Zip: CAMP HILL, PA 17011
Owner Name: BANNING RAD, LLC
Owner Type: Private
Operator Name: THRIFTY PAYLESS, INC
Operator Type: Private
Short-Term Generator Activity: No
Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility Activity: No
Recycler Activity with Storage: No
Small Quantity On-Site Burner Exemption: No
Smelting Melting and Refining Furnace Exemption: No
Underground Injection Control: No
Off-Site Waste Receipt: No
Universal Waste Indicator: No

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Universal Waste Destination Facility: | No |
| Federal Universal Waste: | No |
| Active Site State-Reg Handler: | --- |
| Hazardous Secondary Material Indicator: | N |
| Commercial TSD Indicator: | No |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20220317 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Biennial: List of Years
Year: 2019

Click Here for Biennial Reporting System Data:
Year: 2017

Click Here for Biennial Reporting System Data:
Year: 2015

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:
Waste Code: D001
Waste Description: IGNITABLE WASTE

Waste Code: D002
Waste Description: CORROSIVE WASTE

Waste Code: D005
Waste Description: BARIUM

Waste Code: D006
Waste Description: CADMIUM

Waste Code: D007

**RITE AID #5672 (Continued)** **1014387430**

Waste Description: CHROMIUM

Waste Code: D008
Waste Description: LEAD

Waste Code: D009
Waste Description: MERCURY

Waste Code: D010
Waste Description: SELENIUM

Waste Code: D011
Waste Description: SILVER

Waste Code: D016
Waste Description: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Waste Code: D024
Waste Description: M-CRESOL

Waste Code: D026
Waste Description: CRESOL

Waste Code: D035
Waste Description: METHYL ETHYL KETONE

Waste Code: P001
Waste Description: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

Waste Code: P075
Waste Description: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Waste Code: U002
Waste Description: 2-PROPANONE (I) (OR) ACETONE (I)

Waste Code: U080
Waste Description: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

Waste Code: U160
Waste Description: 2-BUTANONE, PEROXIDE (R,T) (OR) METHYL ETHYL KETONE PEROXIDE (R,T)

Waste Code: U165
Waste Description: NAPHTHALENE

Waste Code: U188
Waste Description: PHENOL

Waste Code: U201
Waste Description: 1,3-BENZENEDIOL (OR) RESORCINOL

Waste Code: U279
Waste Description: U279

**RITE AID #5672 (Continued)** **1014387430**

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: THRIFTY PAYLESS, INC | |
| Legal Status: | Private |
| Date Became Current: | 19970303 |
| Owner/Operator Address: | 30 HUNTER LANE |
| Owner/Operator City,State,Zip: | CAMP HILL, PA 17011 |
| Owner/Operator Telephone: | 717-761-2633 |
| Owner/Operator Email: | EHS@RITEAID.COM |
| | |
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: THRIFTY PAYLESS INC | |
| Legal Status: | Private |
| Date Became Current: | 20090110 |
| | |
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: BANNING RAD, LLC | |
| Legal Status: | Private |
| Date Became Current: | 20090110 |
| Owner/Operator Address: | 4438 EAST WICKHAM AVE |
| Owner/Operator City,State,Zip: | ORANGE, CA 92867 |
| Owner/Operator Telephone: | 714-273-8929 |
| Owner/Operator Email: | EHS@RITEAID.COM |
| | |
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: THRIFTY PAYLESS, INC | |
| Legal Status: | Private |
| Date Became Current: | 19970303 |
| Owner/Operator Address: | 30 HUNTER LANE |
| Owner/Operator City,State,Zip: | CAMP HILL, PA 17011 |
| Owner/Operator Telephone: | 717-761-2633 |
| Owner/Operator Email: | EHS@RITEAID.COM |
| | |
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: RITE AID CORP | |
| Legal Status: | Private |
| Date Became Current: | 19620901 |
| Owner/Operator Address: | 30 HUNTER LN |
| Owner/Operator City,State,Zip: | HARRISBURG, PA 17011 |
| Owner/Operator Telephone: | 717-730-8225 |
| | |
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: BANNING RAD, LLC | |
| Legal Status: | Private |
| Date Became Current: | 20090110 |
| Owner/Operator Address: | 4438 EAST WICKHAM AVE |
| Owner/Operator City,State,Zip: | ORANGE, CA 92867 |
| Owner/Operator Telephone: | 714-273-8929 |
| Owner/Operator Email: | EHS@RITEAID.COM |
| | |
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: THRIFTY PAYLESS INC | |
| Legal Status: | Private |
| Date Became Current: | 20090226 |
| | |
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: THRIFTY PAYLESS, INC | |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Legal Status: | Private |
| Date Became Current: | 19970303 |
| Owner/Operator Address: | 30 HUNTER LANE |
| Owner/Operator City,State,Zip: | CAMP HILL, PA 17011 |
| Owner/Operator Telephone: | 717-761-2633 |
| Owner/Operator Email: | EHS@RITEAID.COM |
| | |
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: BANNING RAD, LLC | |
| Legal Status: | Private |
| Date Became Current: | 20090110 |
| Owner/Operator Address: | 4438 EAST WICKHAM AVE |
| Owner/Operator City,State,Zip: | ORANGE, CA 92867 |
| Owner/Operator Telephone: | 714-273-8929 |
| Owner/Operator Email: | EHS@RITEAID.COM |
| | |
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: RITE AID CORP | |
| Legal Status: | Private |
| Date Became Current: | 19620901 |
| Owner/Operator Address: | 30 HUNTER LN |
| Owner/Operator City,State,Zip: | HARRISBURG, PA 17011 |
| Owner/Operator Telephone: | 717-730-8225 |
| | |
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: BANNING AT 8TH STREET LLC | |
| Legal Status: | Private |
| Date Became Current: | 20090110 |
| Owner/Operator Address: | 2651 IRVINE AVE |
| Owner/Operator City,State,Zip: | COSTA MESA, CA 92627 |
| Owner/Operator Telephone: | 714-325-8696 |
| | |
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: BANNING RAD, LLC | |
| Legal Status: | Private |
| Date Became Current: | 20090110 |
| Owner/Operator Address: | 4438 EAST WICKHAM AVE |
| Owner/Operator City,State,Zip: | ORANGE, CA 92867 |
| Owner/Operator Telephone: | 714-273-8929 |
| Owner/Operator Email: | EHS@RITEAID.COM |
| | |
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: BANNING RAD LLC | |
| Legal Status: | Private |
| Date Became Current: | 20090110 |
| Owner/Operator Address: | 4438 E WICKHAM AVE |
| Owner/Operator City,State,Zip: | ORANGE, CA 92867 |
| Owner/Operator Telephone: | 714-273-8929 |
| | |
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: THRIFTY PAYLESS, INC | |
| Legal Status: | Private |
| Date Became Current: | 19970303 |
| Owner/Operator Address: | 30 HUNTER LANE |
| Owner/Operator City,State,Zip: | CAMP HILL, PA 17011 |
| Owner/Operator Telephone: | 717-761-2633 |
| Owner/Operator Email: | EHS@RITEAID.COM |

**RITE AID #5672 (Continued)** **1014387430**

Historic Generators:

| | | |
|---|---|---|
| Receive Date: | | 20170414 |
| Handler Name: | RITE AID #5672 | |
| Federal Waste Generator Description: | | Conditionally Exempt Small Quantity Generator |
| Large Quantity Handler of Universal Waste: | | No |
| Recognized Trader Importer: | | No |
| Recognized Trader Exporter: | | No |
| Spent Lead Acid Battery Importer: | | No |
| Spent Lead Acid Battery Exporter: | | No |
| Current Record: | | No |

| | | |
|---|---|---|
| Receive Date: | | 20180202 |
| Handler Name: | RITE AID #5672 | |
| Federal Waste Generator Description: | | Large Quantity Generator |
| Large Quantity Handler of Universal Waste: | | No |
| Recognized Trader Importer: | | No |
| Recognized Trader Exporter: | | No |
| Spent Lead Acid Battery Importer: | | No |
| Spent Lead Acid Battery Exporter: | | No |
| Current Record: | | No |
| Non Storage Recycler Activity: | | No |
| Electronic Manifest Broker: | | No |

| | | |
|---|---|---|
| Receive Date: | | 20200217 |
| Handler Name: | RITE AID #5672 | |
| Federal Waste Generator Description: | | Large Quantity Generator |
| Large Quantity Handler of Universal Waste: | | No |
| Recognized Trader Importer: | | No |
| Recognized Trader Exporter: | | No |
| Spent Lead Acid Battery Importer: | | No |
| Spent Lead Acid Battery Exporter: | | No |
| Current Record: | | No |
| Non Storage Recycler Activity: | | No |
| Electronic Manifest Broker: | | No |

| | | |
|---|---|---|
| Receive Date: | | 20100806 |
| Handler Name: | RITE AID 5672 | |
| Federal Waste Generator Description: | | Conditionally Exempt Small Quantity Generator |
| Large Quantity Handler of Universal Waste: | | No |
| Recognized Trader Importer: | | No |
| Recognized Trader Exporter: | | No |
| Spent Lead Acid Battery Importer: | | No |
| Spent Lead Acid Battery Exporter: | | No |
| Current Record: | | No |

| | | |
|---|---|---|
| Receive Date: | | 20140730 |
| Handler Name: | RITE AID NO 5672 | |
| Federal Waste Generator Description: | | Large Quantity Generator |
| Large Quantity Handler of Universal Waste: | | No |
| Recognized Trader Importer: | | No |
| Recognized Trader Exporter: | | No |
| Spent Lead Acid Battery Importer: | | No |
| Spent Lead Acid Battery Exporter: | | No |
| Current Record: | | No |

| | | |
|---|---|---|
| Receive Date: | | 20190429 |
| Handler Name: | RITE AID #5672 | |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Federal Waste Generator Description: | Large Quantity Generator |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | No |
| Non Storage Recycler Activity: | No |
| Electronic Manifest Broker: | No |

| | |
|---|---|
| Receive Date: | 20220316 |
| Handler Name: | RITE AID #5672 |
| Federal Waste Generator Description: | Small Quantity Generator |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |
| Non Storage Recycler Activity: | No |
| Electronic Manifest Broker: | No |

List of NAICS Codes and Descriptions:

| | |
|---|---|
| NAICS Code: | 44611 |
| NAICS Description: | PHARMACIES AND DRUG STORES |

| | |
|---|---|
| NAICS Code: | 446110 |
| NAICS Description: | PHARMACIES AND DRUG STORES |

Facility Has Received Notices of Violations:

| | |
|---|---|
| Violations: | No Violations Found |

Evaluation Action Summary:

| | |
|---|---|
| Evaluations: | No Evaluations Found |

CERS HAZ WASTE:

| | |
|---|---|
| Name: | RITE AID #5672 |
| Address: | 806 RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Site ID: | 148065 |
| CERS ID: | 10327297 |
| CERS Description: | Hazardous Waste Generator |

| | |
|---|---|
| Name: | RITE AID #5672 |
| Address: | 806 RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Site ID: | 148065 |
| CERS ID: | 10327297 |
| CERS Description: | RCRA LQ HW Generator |

HAZNET:

| | |
|---|---|
| Name: | RITE AID #5672 |
| Address: | 806 RAMSEY ST |
| City,State,Zip: | BANNING, CA 17011 |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Contact: | JOSEPH A. CHEST |
| Telephone: | 7179758643 |
| Mailing Address: | 30 HUNTER LN |
| Year: | 2019 |
| Gepaid: | CAR000209643 |
| TSD EPA ID: | NVT330010000 |
| CA Waste Code: | 122 - Alkaline solution without metals pH >= 12.5 |
| Disposal Method: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Tons: | 0.00600 |
| Year: | 2019 |
| Gepaid: | CAR000209643 |
| TSD EPA ID: | NVT330010000 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Tons: | 0.14650 |
| Year: | 2019 |
| Gepaid: | CAR000209643 |
| TSD EPA ID: | NVT330010000 |
| CA Waste Code: | 141 - Off-specification, aged or surplus inorganics |
| Disposal Method: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Tons: | 0.00950 |
| Year: | 2019 |
| Gepaid: | CAR000209643 |
| TSD EPA ID: | NVT330010000 |
| CA Waste Code: | 311 - Pharmaceutical waste |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.00400 |
| Year: | 2019 |
| Gepaid: | CAR000209643 |
| TSD EPA ID: | NVT330010000 |
| CA Waste Code: | 181 - Other inorganic solid waste |
| Disposal Method: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Tons: | 0.00100 |
| Year: | 2019 |
| Gepaid: | CAR000209643 |
| TSD EPA ID: | NVT330010000 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Tons: | 0.33850 |
| Year: | 2019 |
| Gepaid: | CAR000209643 |
| TSD EPA ID: | NVT330010000 |
| CA Waste Code: | 214 - Unspecified solvent mixture |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| | Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.03350 |
| Year: | 2019 |
| Gepaid: | CAR000209643 |
| TSD EPA ID: | NVT330010000 |
| CA Waste Code: | 141 - Off-specification, aged or surplus inorganics |
| Disposal Method: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Tons: | 0.01900 |
| Year: | 2018 |
| Gepaid: | CAR000209643 |
| TSD EPA ID: | NVT330010000 |
| CA Waste Code: | 122 - Alkaline solution without metals pH >= 12.5 |
| Disposal Method: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Tons: | 0.00350 |
| Year: | 2018 |
| Gepaid: | CAR000209643 |
| TSD EPA ID: | NVT330010000 |
| CA Waste Code: | 122 - Alkaline solution without metals pH >= 12.5 |
| Disposal Method: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Tons: | 0.00850 |

Click this hyperlink while viewing on your computer to access
36 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:

| | |
|---|---|
| Year: | 2015 |
| Gen EPA ID: | CAR000209643 |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 561 - Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0575 |
| Waste Quantity: | 115 |
| Quantity Unit: | P |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 561 - Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0695 |
| Waste Quantity: | 139 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D010 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.009 |
| Waste Quantity: | 18 |
| Quantity Unit: | P |
| Additional Code 1: | D007 |
| | |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 122 - Alkaline solution without metals (pH > 12.5 |
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0025 |
| Waste Quantity: | 5 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| RCRA Code: | D011 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0005 |
| Waste Quantity: | 1 |
| Quantity Unit: | P |
| Additional Code 1: | D010 |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Additional Code 2: | D007 |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| RCRA Code: | P075 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.001 |
| Waste Quantity: | 2 |
| Quantity Unit: | P |
| Shipment Date: | 20151102 |
| Creation Date: | 1/7/2016 22:15:09 |
| Receipt Date: | 20151105 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0005 |
| Waste Quantity: | 1 |
| Quantity Unit: | P |
| Shipment Date: | 20151102 |
| Creation Date: | 1/7/2016 22:15:09 |
| Receipt Date: | 20151105 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 214 - Unspecified solvent mixture |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.009 |
| Waste Quantity: | 18 |
| Quantity Unit: | P |
| Shipment Date: | 20151102 |
| Creation Date: | 1/7/2016 22:15:09 |
| Receipt Date: | 20151105 |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 214 - Unspecified solvent mixture |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.01 |
| Waste Quantity: | 20 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 181 - Other inorganic solid waste Organics |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.004 |
| Waste Quantity: | 8 |
| Quantity Unit: | P |

Additional Info:

| | |
|---|---|
| Year: | 2017 |
| Gen EPA ID: | CAR000209643 |
| | |
| Shipment Date: | 20171020 |
| Creation Date: | 7/17/2018 18:30:18 |
| Receipt Date: | 20171026 |
| Manifest ID: | 010758816FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| RCRA Code: | D026 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0185 |
| Waste Quantity: | 37 |
| Quantity Unit: | P |
| Additional Code 1: | D024 |
| | |
| Shipment Date: | 20171020 |
| Creation Date: | 7/17/2018 18:30:18 |
| Receipt Date: | 20171026 |
| Manifest ID: | 010758816FLE |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| RCRA Code: | P001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0005 |
| Waste Quantity: | 1 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171020 |
| Creation Date: | 7/17/2018 18:30:18 |
| Receipt Date: | 20171026 |
| Manifest ID: | 010758816FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| RCRA Code: | P075 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0005 |
| Waste Quantity: | 1 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171020 |
| Creation Date: | 7/17/2018 18:30:18 |
| Receipt Date: | 20171026 |
| Manifest ID: | 010758816FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D011 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0005 |
| Waste Quantity: | 1 |
| Quantity Unit: | P |
| Additional Code 1: | D010 |
| Additional Code 2: | D007 |
| | |
| Shipment Date: | 20171020 |
| Manifest ID: | 010758816FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| RCRA Code: | D010 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.001 |
| Waste Quantity: | 2 |
| Quantity Unit: | P |
| Additional Code 1: | D007 |
| | |
| Shipment Date: | 20171020 |
| Manifest ID: | 010758816FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.085 |
| Waste Quantity: | 170 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171020 |
| Manifest ID: | 010758816FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 141 - Off-specification, aged, or surplus inorganics |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.002 |
| Waste Quantity: | 4 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20171020 |
| Manifest ID: | 010758816FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAR000217000 |
| Trans 2 Name: | LA CHIQUITA TRUCKING |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 214 - Unspecified solvent mixture |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0125 |
| Waste Quantity: | 25 |

**RITE AID #5672 (Continued)** **1014387430**

Quantity Unit: P

Shipment Date: 20171020
Manifest ID: 010758816FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: CAR000217000
Trans 2 Name: LA CHIQUITA TRUCKING
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Waste Code Description: 343 - Unspecified organic liquid mixture
RCRA Code: D001
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.014
Waste Quantity: 28
Quantity Unit: P

Shipment Date: 20171020
Manifest ID: 010758816FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: CAR000217000
Trans 2 Name: LA CHIQUITA TRUCKING
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Waste Code Description: 181 - Other inorganic solid waste Organics
RCRA Code: D009
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.0005
Waste Quantity: 1
Quantity Unit: P

Additional Info:
Year: 2016
Gen EPA ID: CAR000209643

Shipment Date: 20151102
Manifest ID: 008563120FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: CAD983649880
Trans 2 Name: PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Waste Code Description: 311 - Pharmaceutical waste
RCRA Code: P075
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.001
Waste Quantity: 2
Quantity Unit: P

Shipment Date: 20151102
Manifest ID: 008563120FLE
Trans EPA ID: MNS000110924

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 561 - Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0575 |
| Waste Quantity: | 115 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 122 - Alkaline solution without metals (pH > 12.5 |
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0025 |
| Waste Quantity: | 5 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D010 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.009 |
| Waste Quantity: | 18 |
| Quantity Unit: | P |
| Additional Code 1: | D007 |
| | |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 561 - Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0695 |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Waste Quantity: | 139 |
| Quantity Unit: | P |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| RCRA Code: | D011 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0005 |
| Waste Quantity: | 1 |
| Quantity Unit: | P |
| Additional Code 1: | D010 |
| Additional Code 2: | D007 |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 181 - Other inorganic solid waste Organics |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0285 |
| Waste Quantity: | 57 |
| Quantity Unit: | P |
| Shipment Date: | 20151102 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 181 - Other inorganic solid waste Organics |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.004 |
| Waste Quantity: | 8 |
| Quantity Unit: | P |
| Shipment Date: | 20151102 |
| Creation Date: | 1/7/2016 22:15:09 |
| Receipt Date: | 20151105 |
| Manifest ID: | 008563120FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |

**RITE AID #5672 (Continued)** **1014387430**

Trans 2 EPA ID: CAD983649880
Trans 2 Name: PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Waste Code Description: 214 - Unspecified solvent mixture
RCRA Code: D001
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.01
Waste Quantity: 20
Quantity Unit: P

Shipment Date: 20151102
Creation Date: 1/7/2016 22:15:09
Receipt Date: 20151105
Manifest ID: 008563120FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: CAD983649880
Trans 2 Name: PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Waste Code Description: 214 - Unspecified solvent mixture
RCRA Code: D001
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.009
Waste Quantity: 18
Quantity Unit: P

Additional Info:
Year: 2011
Gen EPA ID: CAR000209643

Shipment Date: 20111013
Creation Date: 3/26/2012 20:30:13
Receipt Date: 20111101
Manifest ID: 004969281FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: OKD981588791
Trans 2 Name: TRIAD TRANSPORT INC
TSDF EPA ID: INR000110197
Trans Name: STERICYCLE INC
Waste Code Description: 311 - Pharmaceutical waste
RCRA Code: P075
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.0005
Waste Quantity: 1
Quantity Unit: P
Additional Code 1: P001

Shipment Date: 20111013
Creation Date: 3/26/2012 20:30:13
Receipt Date: 20111101
Manifest ID: 004969281FLE

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | OKD981588791 |
| Trans 2 Name: | TRIAD TRANSPORT INC |
| TSDF EPA ID: | INR000110197 |
| Trans Name: | STERICYCLE INC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| RCRA Code: | D010 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0045 |
| Waste Quantity: | 9 |
| Quantity Unit: | P |
| Additional Code 1: | D007 |

Additional Info:

| | |
|---|---|
| Year: | 2010 |
| Gen EPA ID: | CAR000209643 |
| Shipment Date: | 20100901 |
| Manifest ID: | 000018576MWI |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD980584510 |
| Trans 2 Name: | PHILIP WEST INDUSTRIAL SERVICES |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D016 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.005 |
| Waste Quantity: | 10 |
| Quantity Unit: | P |
| Shipment Date: | 20100901 |
| Manifest ID: | 000018576MWI |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD980584510 |
| Trans 2 Name: | PHILIP WEST INDUSTRIAL SERVICES |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 122 - Alkaline solution without metals (pH > 12.5 |
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.02 |
| Waste Quantity: | 40 |
| Quantity Unit: | P |
| Shipment Date: | 20100901 |
| Creation Date: | 11/3/2010 18:30:08 |
| Receipt Date: | 20100903 |
| Manifest ID: | 000018576MWI |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Trans 2 EPA ID: | CAD980584510 |
| Trans 2 Name: | PHILIP WEST INDUSTRIAL SERVICES |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 214 - Unspecified solvent mixture |
| RCRA Code: | D035 |
| Meth Code: | H061 - Fuel Blending Prior To Energy Recovery At Another Site |
| Quantity Tons: | 0.0075 |
| Waste Quantity: | 15 |
| Quantity Unit: | P |
| Additional Code 1: | D001 |
| | |
| Shipment Date: | 20100901 |
| Creation Date: | 11/3/2010 18:30:08 |
| Receipt Date: | 20100903 |
| Manifest ID: | 000018576MWI |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD980584510 |
| Trans 2 Name: | PHILIP WEST INDUSTRIAL SERVICES |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D035 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.005 |
| Waste Quantity: | 10 |
| Quantity Unit: | P |
| Additional Code 1: | D008 |
| Additional Code 2: | D007 |
| Additional Code 3: | D005 |
| Additional Code 4: | D001 |
| | |
| Shipment Date: | 20100901 |
| Manifest ID: | 000018576MWI |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Trans 2 EPA ID: | CAD980584510 |
| Trans 2 Name: | PHILIP WEST INDUSTRIAL SERVICES |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | - Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |

Additional Info:

| | |
|---|---|
| Year: | 2012 |
| Gen EPA ID: | CAR000209643 |
| | |
| Shipment Date: | 20121108 |
| Manifest ID: | 005525733FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | OKD981588791 |
| Trans 2 Name: | TRIAD TRANSPORT INC |
| TSDF EPA ID: | INR000110197 |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Trans Name: | STERICYCLE INC |
| Waste Code Description: | 214 - Unspecified solvent mixture |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.005 |
| Waste Quantity: | 10 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20121108 |
| Creation Date: | 4/6/2013 22:15:07 |
| Receipt Date: | 20121119 |
| Manifest ID: | 005525733FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | OKD981588791 |
| Trans 2 Name: | TRIAD TRANSPORT INC |
| TSDF EPA ID: | INR000110197 |
| Trans Name: | STERICYCLE INC |
| Waste Code Description: | 232 - Pesticides and other waste associated with pesticide production |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.001 |
| Waste Quantity: | 2 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20121108 |
| Creation Date: | 4/6/2013 22:15:07 |
| Receipt Date: | 20121119 |
| Manifest ID: | 005525733FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | OKD981588791 |
| Trans 2 Name: | TRIAD TRANSPORT INC |
| TSDF EPA ID: | INR000110197 |
| Trans Name: | STERICYCLE INC |
| Waste Code Description: | 791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals |
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.001 |
| Waste Quantity: | 2 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20121108 |
| Creation Date: | 4/6/2013 22:15:07 |
| Receipt Date: | 20121119 |
| Manifest ID: | 005525733FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | OKD981588791 |
| Trans 2 Name: | TRIAD TRANSPORT INC |
| TSDF EPA ID: | INR000110197 |
| Trans Name: | STERICYCLE INC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| RCRA Code: | P075 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| | Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.001 |
| Waste Quantity: | 2 |
| Quantity Unit: | P |
| Additional Code 1: | P001 |
| | |
| Shipment Date: | 20121108 |
| Manifest ID: | 005525733FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | OKD981588791 |
| Trans 2 Name: | TRIAD TRANSPORT INC |
| TSDF EPA ID: | INR000110197 |
| Trans Name: | STERICYCLE INC |
| Waste Code Description: | 561 - Not reported |
| Meth Code: | - Not reported |
| Quantity Tons: | 0.02 |
| Waste Quantity: | 40 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20121108 |
| Manifest ID: | 005525733FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | OKD981588791 |
| Trans 2 Name: | TRIAD TRANSPORT INC |
| TSDF EPA ID: | INR000110197 |
| Trans Name: | STERICYCLE INC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| Meth Code: | - Not reported |
| Quantity Tons: | 0.0075 |
| Waste Quantity: | 15 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20121108 |
| Manifest ID: | 005525733FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | OKD981588791 |
| Trans 2 Name: | TRIAD TRANSPORT INC |
| TSDF EPA ID: | INR000110197 |
| Trans Name: | STERICYCLE INC |
| Waste Code Description: | - Not reported |
| Meth Code: | - Not reported |
| Quantity Tons: | 0.013 |
| Waste Quantity: | 26 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20121108 |
| Manifest ID: | 005525733FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | OKD981588791 |
| Trans 2 Name: | TRIAD TRANSPORT INC |
| TSDF EPA ID: | INR000110197 |
| Trans Name: | STERICYCLE INC |
| Waste Code Description: | - Not reported |

**RITE AID #5672 (Continued)** **1014387430**

Meth Code: - Not reported
Quantity Tons: 0.001
Waste Quantity: 2
Quantity Unit: P

Shipment Date: 20121108
Manifest ID: 005525733FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: OKD981588791
Trans 2 Name: TRIAD TRANSPORT INC
TSDF EPA ID: INR000110197
Trans Name: STERICYCLE INC
Waste Code Description: 311 - Pharmaceutical waste
Meth Code: - Not reported
Quantity Tons: 0.0005
Waste Quantity: 1
Quantity Unit: P

Shipment Date: 20121108
Manifest ID: 005525733FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: OKD981588791
Trans 2 Name: TRIAD TRANSPORT INC
TSDF EPA ID: INR000110197
Trans Name: STERICYCLE INC
Waste Code Description: 311 - Pharmaceutical waste
Meth Code: - Not reported
Quantity Tons: 0.0005
Waste Quantity: 1
Quantity Unit: P

Additional Info:
Year: 2014
Gen EPA ID: CAR000209643

Shipment Date: 20141203
Manifest ID: 007330484FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: CAD983649880
Trans 2 Name: PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
Waste Code Description: 311 - Pharmaceutical waste
RCRA Code: P001
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.0005
Waste Quantity: 1
Quantity Unit: P

Shipment Date: 20141203
Manifest ID: 007330484FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D010 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.007 |
| Waste Quantity: | 14 |
| Quantity Unit: | P |
| Additional Code 1: | D007 |
| | |
| Shipment Date: | 20141203 |
| Manifest ID: | 007330484FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D010 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.036 |
| Waste Quantity: | 72 |
| Quantity Unit: | P |
| Additional Code 1: | D007 |
| | |
| Shipment Date: | 20141203 |
| Manifest ID: | 007330484FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 122 - Alkaline solution without metals (pH > 12.5 |
| RCRA Code: | D002 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0055 |
| Waste Quantity: | 11 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20141203 |
| Manifest ID: | 007330484FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | D009 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| | Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.001 |
| Waste Quantity: | 2 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20141203 |
| Manifest ID: | 007330484FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 214 - Unspecified solvent mixture |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.005 |
| Waste Quantity: | 10 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20141203 |
| Creation Date: | 3/19/2015 22:14:50 |
| Receipt Date: | 20141211 |
| Manifest ID: | 007330484FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| RCRA Code: | P075 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0005 |
| Waste Quantity: | 1 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20141203 |
| Manifest ID: | 007330484FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 311 - Pharmaceutical waste |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.046 |
| Waste Quantity: | 92 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20141203 |
| Manifest ID: | 007330484FLE |
| Trans EPA ID: | MNS000110924 |

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | 561 - Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0815 |
| Waste Quantity: | 163 |
| Quantity Unit: | P |
| Shipment Date: | 20141203 |
| Manifest ID: | 007330484FLE |
| Trans EPA ID: | MNS000110924 |
| Trans Name: | STERICYCLE SPECIALTY WASTE SOLUTIONS INC |
| Trans 2 EPA ID: | CAD983649880 |
| Trans 2 Name: | PSC ENVIRONMENTAL SERVICES OF POMONA LP |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO CHEM LLC |
| Waste Code Description: | - Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0055 |
| Waste Quantity: | 11 |
| Quantity Unit: | P |

CERS:

| | |
|---|---|
| Name: | RITE AID #5672 |
| Address: | 806 RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Site ID: | 148065 |
| CERS ID: | 10327297 |
| CERS Description: | Chemical Storage Facilities |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 08-06-2015 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-15-2021 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Facility is a retail drug store which generates wastes in the following forms: soaps, lotions, electronics, medicines, cosmetics, and other related wastes streams. Hazardous waste hauler for this facility: EQ Industrial Services |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |

**RITE AID #5672 (Continued)** **1014387430**

Eval Date: 09-07-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: Jordan Anderson
Affiliation Phone: ,

Affiliation Type Desc: Environmental Contact
Entity Name: Joseph A. Chest
Affiliation Address: 30 Hunter Lane
Affiliation City: Camp Hill
Affiliation State: PA
Affiliation Zip: 17011
Affiliation Phone: ,

Affiliation Type Desc: Operator
Entity Name: Rite Aid #5672
Affiliation Phone: (951) 849-8614,

Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055,

Affiliation Type Desc: Parent Corporation
Entity Name: RITE AID CORPORATION
Affiliation Phone: ,

Affiliation Type Desc: Property Owner
Entity Name: Banning RAD, LLC
Affiliation Address: 4438 East Wickham Ave
Affiliation City: Orange
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92867
Affiliation Phone: (714) 273-8929,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Affiliation Address: 30 Hunter Lane, ATTN EHS
Affiliation City: Camp Hill
Affiliation State: PA
Affiliation Zip: 17011
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: Joseph A. Chest
Entity Title: Manager, EHS
Affiliation Phone: ,

**RITE AID #5672 (Continued)** **1014387430**

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Thrifty Payless, Inc |
| Affiliation Address: | 30 Hunter Lane |
| Affiliation City: | Camp Hill |
| Affiliation State: | PA |
| Affiliation Country: | United States |
| Affiliation Zip: | 17011 |
| Affiliation Phone: | (717) 761-2633, |

HWTS:

| | |
|---|---|
| Name: | RITE AID #5672 |
| Address: | 806 RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| EPA ID: | CAR000209643 |
| Create Date: | 08/09/2010 |
| Mailing Address: | 30 HUNTER LN |
| Mailing City,State,Zip: | CAMP HILL, PA 17011 |
| Owner Name: | THRIFTY PAYLESS INC |
| Owner Address: | 30 HUNTER LN |
| Owner City,State,Zip: | CAMP HILL, PA 17011 |
| Contact Name: | JOSEPH A. CHEST |
| Contact Address: | 30 HUNTER LN |
| City,State,Zip: | CAMP HILL, PA 17011 |
| Facility Status: | Active |
| Facility Type: | PERMANENT |
| Category: | FEDERAL |
| Latitude: | 33.925376 |
| Longitude: | -116.867897 |

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**G20** **BANNING RECYCLING** **RCRA NonGen / NLR** **1024821004**
**ESE** **284 S 8TH ST** **CAL000335600**
**1/8-1/4** **BANNING, CA 92220**
**0.209 mi.**
**1106 ft.** **Site 1 of 3 in cluster G**

**Relative:** **Lower**
**Actual:** **2337 ft.**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 20080819 |
| Handler Name: | BANNING RECYCLING | |
| Handler Address: | | 284 S 8TH ST |
| Handler City,State,Zip: | | BANNING, CA 92220-4506 |
| EPA ID: | | CAL000335600 |
| Contact Name: | | RAJ GANDHI |
| Contact Address: | | 2993 6TH ST |
| Contact City,State,Zip: | | RIVERSIDE, CA 92507 |
| Contact Telephone: | | 951-686-2129 |
| Contact Fax: | | 951-686-8933 |
| Contact Email: | | RAJMG1029@MSN.COM |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Active Site Indicator: | | Handler Activities |
| Mailing Address: | | PO BOX 5288 |
| Mailing City,State,Zip: | | RIVERSIDE, CA 92517-5288 |
| Owner Name: | RIVERSIDE SCRAP IRON & METAL | |
| Owner Type: | | Other |
| Operator Name: | RAJ GANDHI | |
| Operator Type: | | Other |

**BANNING RECYCLING (Continued)** **1024821004**

| | |
|---|---|
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | Yes |
| Universal Waste Destination Facility: | Yes |
| Federal Universal Waste: | No |
| Active Site State-Reg Handler: | --- |
| Hazardous Secondary Material Indicator: | N |
| Commercial TSD Indicator: | No |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20180905 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: RAJ GANDHI | |
| Legal Status: | Other |
| Owner/Operator Address: | 2993 6TH ST |
| Owner/Operator City,State,Zip: | RIVERSIDE, CA 92507 |
| Owner/Operator Telephone: | 951-686-2129 |

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: RIVERSIDE SCRAP IRON & METAL | |
| Legal Status: | Other |
| Owner/Operator Address: | 2993 6TH ST |
| Owner/Operator City,State,Zip: | RIVERSIDE, CA 92507-0000 |
| Owner/Operator Telephone: | 951-686-2129 |

**BANNING RECYCLING (Continued)** **1024821004**

Historic Generators:
Receive Date: 20080819
Handler Name: BANNING RECYCLING
Federal Waste Generator Description: Not a generator, verified
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes

List of NAICS Codes and Descriptions:
NAICS Code: 42193
NAICS Description: RECYCLABLE MATERIAL WHOLESALERS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

---

**G21** **ANTIQUE CLASSIC CAR** **LUST** **S102424032**
**ESE** **314 S EIGHTH ST** **N/A**
**1/8-1/4** **BANNING, CA**
**0.213 mi.**
**1122 ft.** **Site 2 of 3 in cluster G**

**Relative:** RIVERSIDE CO. LUST:
**Lower**
Name: ANTIQUE CLASSIC CAR
**Actual:** Address: 314 S EIGHTH ST
**2337 ft.** City,State,Zip: BANNING, CA
Region: RIVERSIDE
Facility ID: 90285
Employee: Rogers
Site Closed: Yes
Case Type: Soil only
Facility Status: closed/action completed
Casetype Decode: Soil only is impacted
Fstatus Decode: Closed/Action completed

---

**G22** **ANTIQUE CLASSIC CAR** **LUST** **S105022679**
**ESE** **314 SOUTH EIGHTH STREET** **Cortese** **N/A**
**1/8-1/4** **BANNING, CA 92220** **HIST CORTESE**
**0.213 mi.** **CERS**
**1122 ft.** **Site 3 of 3 in cluster G**

**Relative:** LUST:
**Lower**
Name: ANTIQUE CLASSIC CAR
**Actual:** Address: 314 SOUTH EIGHTH STREET
**2337 ft.** City,State,Zip: BANNING, CA 92220
Lead Agency: RIVERSIDE COUNTY LOP
Case Type: LUST Cleanup Site

**ANTIQUE CLASSIC CAR (Continued)** **S105022679**

Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606500719
Global Id: T0606500719
Latitude: 33.9224633763925
Longitude: -116.884991544111
Status: Completed - Case Closed
Status Date: 07/25/1990
Case Worker: RIV
RB Case Number: 7T2220005
Local Agency: RIVERSIDE COUNTY LOP
File Location: Local Agency Warehouse
Local Case Number: 90285
Potential Media Affect: Soil
Potential Contaminants of Concern: Diesel

LUST:
Global Id: T0606500719
Contact Type: Regional Board Caseworker
Contact Name: Phan Le
Organization Name: COLORADO RIVER BASIN RWQCB (REGION 7)
Address: 73720 FRED WARING DRIVE SUITE #100
City: PALM DESERT
Email: phan.le@waterboards.ca.gov
Phone Number: 7607768974

Global Id: T0606500719
Contact Type: Local Agency Caseworker
Contact Name: Riverside County LOP
Organization Name: RIVERSIDE COUNTY LOP
Address: 3880 LEMON ST SUITE 200
City: RIVERSIDE
Phone Number: 9519558980

LUST:
Global Id: T0606500719
Action Type: ENFORCEMENT
Date: 01/06/2009
Action: File review - #RCDEH Upload Site File 3/27/2015

Global Id: T0606500719
Action Type: Other
Date: 04/03/1990
Action: Leak Reported

Global Id: T0606500719
Action Type: Other
Date: 03/21/1990
Action: Leak Stopped

Global Id: T0606500719
Action Type: ENFORCEMENT
Date: 01/07/2009
Action: Closure/No Further Action Letter - #Site Closure

Global Id: T0606500719
Action Type: Other
Date: 03/21/1990
Action: Leak Discovery

**ANTIQUE CLASSIC CAR (Continued)** **S105022679**

LUST:
Global Id: T0606500719
Status: Open - Case Begin Date
Status Date: 03/21/1990

Global Id: T0606500719
Status: Completed - Case Closed
Status Date: 07/25/1990

LUST REG 7:
Region: 7
Status: 9 - Case Closed
Case Num: 7T2220005
Substance: Diesel fuel oil and additives
ID: 407
Global ID: T0606500719
Lead Agency: Local Agency
Case Worker: RT

CORTESE:
Name: ANTIQUE CLASSIC CAR
Address: 314 SOUTH EIGHTH STREET
City,State,Zip: BANNING, CA 92220
Region: CORTESE
Global ID: T0606500719
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Flag: active
File Name: Active Open

HIST CORTESE:
edr_fname: ANTIQUE CLASSIC CAR
edr_fadd1: 314 8TH
City,State,Zip: BANNING, CA 92220
Region: CORTESE
Facility County Code: 33
Reg By: LTNKA
Reg Id: 7T2220005

CERS:
Name: ANTIQUE CLASSIC CAR
Address: 314 SOUTH EIGHTH STREET
City,State,Zip: BANNING, CA 92220
Site ID: 256493
CERS ID: T0606500719
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: Riverside County LOP - RIVERSIDE COUNTY LOP
Affiliation Address: 3880 LEMON ST SUITE 200
Affiliation City: RIVERSIDE
Affiliation State: CA
Affiliation Phone: 9519558980,

**ANTIQUE CLASSIC CAR (Continued)** **S105022679**

| | |
|---|---|
| Affiliation Type Desc: | Regional Board Caseworker |
| Entity Name: | Phan Le - COLORADO RIVER BASIN RWQCB (REGION 7) |
| Affiliation Address: | 73720 FRED WARING DRIVE SUITE #100 |
| Affiliation City: | PALM DESERT |
| Affiliation State: | CA |
| Affiliation Phone: | 7607768974, |

---

**H23** **LAWRENCE EQUIPMENT** **RCRA NonGen / NLR** **1024838363**
**WSW** **1879 W LINCOLN ST** **CAL000385093**
**1/8-1/4** **BANNING, CA 92220**
**0.213 mi.**
**1126 ft.** **Site 1 of 2 in cluster H**

**Relative:** **Higher**
**Actual:** **2397 ft.**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 20130502 |
| Handler Name: | LAWRENCE EQUIPMENT | |
| Handler Address: | | 1879 W LINCOLN ST |
| Handler City,State,Zip: | | BANNING, CA 92220-4218 |
| EPA ID: | | CAL000385093 |
| Contact Name: | | JOSE JACQUEZ |
| Contact Address: | | 2034 NORTH PECK ROAD |
| Contact City,State,Zip: | | SOUTH EL MONTE, CA 91733 |
| Contact Telephone: | | 626-442-2894 |
| Contact Fax: | | 626-350-5181 |
| Contact Email: | | JJACQUEZ@LAWRENCEEQUIPMENT.COM |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Active Site Indicator: | | Handler Activities |
| Mailing Address: | | 2034 PECK RD |
| Mailing City,State,Zip: | | SOUTH EL MONTE, CA 91733-3727 |
| Owner Name: | LAWRENCE EQUIPMENT INC | |
| Owner Type: | | Other |
| Operator Name: | JOSE JACQUEZ | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | Yes |
| Universal Waste Destination Facility: | | Yes |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |

**LAWRENCE EQUIPMENT (Continued)** **1024838363**

| | |
|---|---|
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20180906 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: JOSE JACQUEZ | |
| Legal Status: | Other |
| Owner/Operator Address: | 2034 NORTH PECK ROAD |
| Owner/Operator City,State,Zip: | SOUTH EL MONTE, CA 91733 |
| Owner/Operator Telephone: | 626-442-2894 |

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: LAWRENCE EQUIPMENT INC | |
| Legal Status: | Other |
| Owner/Operator Address: | 2034 PECK RD |
| Owner/Operator City,State,Zip: | SOUTH EL MONTE, CA 91733-3727 |
| Owner/Operator Telephone: | 626-442-2894 |

Historic Generators:

| | |
|---|---|
| Receive Date: | 20130502 |
| Handler Name: LAWRENCE EQUIPMENT | |
| Federal Waste Generator Description: | Not a generator, verified |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |

List of NAICS Codes and Descriptions:

| | |
|---|---|
| NAICS Code: | 333294 |
| NAICS Description: | FOOD PRODUCT MACHINERY MANUFACTURING |

Facility Has Received Notices of Violations:

| | |
|---|---|
| Violations: | No Violations Found |

Evaluation Action Summary:

| | |
|---|---|
| Evaluations: | No Evaluations Found |

**H24** **LAWRENCE EQUIPMENT BANNING** **CERS HAZ WASTE** **S123077709**
**WSW** **1879 W LINCOLN STREET** **HAZNET** **N/A**
**1/8-1/4** **BANNING, CA 92220** **NPDES**
**0.213 mi.** **CIWQS**
**1126 ft.** **Site 2 of 2 in cluster H** **CERS**
**HWTS**

**Relative: Higher**

**Actual: 2397 ft.**

CERS HAZ WASTE:
Name: LAWRENCE EQUIPMENT
Address: 1879 W LINCOLN ST
City,State,Zip: BANNING, CA 92220
Site ID: 396348
CERS ID: 10329616
CERS Description: Hazardous Waste Generator

HAZNET:
Name: LAWRENCE EQUIPMENT
Address: 1879 W LINCOLN ST
City,State,Zip: BANNING, CA 917333727
Contact: JOSE JACQUEZ
Telephone: 6264422894
Mailing Address: 2034 PECK RD

Year: 2019
Gepaid: CAL000385093
TSD EPA ID: AZR000520478
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 2.29340

Year: 2018
Gepaid: CAL000385093
TSD EPA ID: AZR000520304
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 1.14675

Year: 2017
Gepaid: CAL000385093
TSD EPA ID: CAD044429835
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.15

Year: 2017
Gepaid: CAL000385093
TSD EPA ID: CAD044429835
CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.2

Additional Info:
Year: 2017

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

Gen EPA ID: CAL000385093

Shipment Date: 20170110
Creation Date: 3/23/2017 18:30:13
Receipt Date: 20170119
Manifest ID: 005864699SKS
Trans EPA ID: TXR000081205
Trans Name: SAFETY-KLEEN SYSTEMS, INC.
TSDF EPA ID: CAD044429835
Trans Name: CLEAN HARBORS OF WILMINGTON, LLC
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.2
Waste Quantity: 400
Quantity Unit: P

Shipment Date: 20170110
Creation Date: 3/23/2017 18:30:13
Receipt Date: 20170119
Manifest ID: 005864699SKS
Trans EPA ID: TXR000081205
Trans Name: SAFETY-KLEEN SYSTEMS, INC.
TSDF EPA ID: CAD044429835
Trans Name: CLEAN HARBORS OF WILMINGTON, LLC
Waste Code Description: 223 - Unspecified oil-containing waste
RCRA Code: D009
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.15
Waste Quantity: 300
Quantity Unit: P
Additional Code 1: D008
Additional Code 2: D007
Additional Code 3: D006
Additional Code 4: D005

NPDES:
Name: LAWRENCE EQUIPMENT BANNING
Address: 1879 W LINCOLN STREET
City,State,Zip: BANNING, CA 92220
WDID: 7 33C394552
Regulatory Measure Type: Construction
Status: Active
Status Date: 07/26/2021
Operator Name: Lawrence Equipment Inc
Operator Address: 143 6th Street
Operator City: Seal Beach
Operator State: California
Operator Zip: 90740

Name: LAWRENCE EQUIPMENT BANNING
Address: 1879 W LINCOLN STREET
City,State,Zip: BANNING, CA 92220
Facility Status: Active
NPDES Number: CAS000002
Region: 7

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

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|---|---|
| Agency Number: | 0 |
| Regulatory Measure ID: | 538495 |
| Order Number: | 2009-0009-DWQ |
| WDID: | 7 33C394552 |
| Regulatory Measure Type: | Enrollee |
| Program Type: | Construction |
| Effective Date Of Regulatory Measure: | 07/26/2021 |
| Discharge Address: | 143 6th Street |
| Discharge Name: | Lawrence Equipment Inc |
| Discharge City: | Seal Beach |
| Discharge State: | California |
| Discharge Zip: | 90740 |

CIWQS:

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|---|---|
| Name: | LAWRENCE EQUIPMENT BANNING |
| Address: | 1879 W LINCOLN STREET |
| City,State,Zip: | BANNING, CA 92220 |
| Agency: | Lawrence Equipment Inc |
| Agency Address: | 143 6th Street, Seal Beach, CA 90740 |
| Place/Project Type: | Construction - Industrial |
| Region: | 7 |
| Program: | CONSTW |
| Regulatory Measure Status: | Active |
| Regulatory Measure Type: | Storm water construction |
| Order Number: | 2009-0009-DWQ |
| WDID: | 7 33C394552 |
| NPDES Number: | CAS000002 |
| Effective Date: | 07/26/2021 |
| Enforcement Actions within 5 years: | 0 |
| Violations within 5 years: | 0 |
| Latitude: | 33.9226 |
| Longitude: | -116.89516 |

CERS:

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|---|---|
| Name: | LAWRENCE EQUIPMENT BANNING |
| Address: | 1879 W LINCOLN STREET |
| City,State,Zip: | BANNING, CA 92220 |
| Site ID: | 584545 |
| CERS ID: | 895906 |
| CERS Description: | Construction Storm Water |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Owner/Operator |
| Entity Name: | Lawrence Equipment Inc |
| Entity Title: | Operator |
| Affiliation Address: | 143 6th Street |
| Affiliation City: | Seal Beach |
| Affiliation State: | CA |
| Affiliation Zip: | 90740 |
| Affiliation Phone: | , |

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| Name: | LAWRENCE EQUIPMENT |
| Address: | 1879 W LINCOLN ST |
| City,State,Zip: | BANNING, CA 92220 |
| Site ID: | 396348 |
| CERS ID: | 10329616 |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

CERS Description: Chemical Storage Facilities

Violations:

Site ID: 396348
Site Name: Lawrence Equipment
Violation Date: 02-15-2022
Citation: Un-Specified
Violation Description: Business Plan Program - Operations/Maintenance - General Local Ordinance
Violation Notes: OBSERVATION: Observed lack of proper signage posted for hazardous waste storage and hazardous materials storage areas. CORRECTIVE ACTION: Owner/operator shall properly identify all hazardous materials storage areas appropriately. Pictures can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 396348
Site Name: Lawrence Equipment
Violation Date: 10-27-2021
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description: Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: OBSERVATION: Observed oily water tote missing proper labels. CORRECTIVE ACTION: Owner/operator shall label hazardous waste containers with all the required information. Label shall include at least: the words ""hazardous waste"", generator name and address, accumulation start date, composition and physical state of waste, and hazardous property statement. Pictures can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 396348
Site Name: Lawrence Equipment
Violation Date: 09-04-2018
Citation: 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description: Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste.
Violation Notes: Returned to compliance on 10/19/2018. OBSERVATION: No manifests available during inspection. CORRECTIVE ACTION: Owner/operator shall obtain all manifests for hazardous waste shipments which occurred in the past 3 years. Manifests shall be made available for inspection. Copies of manifests can be emailed to rsgarcia@rivco.org or faxed to 951-791-1778.
Violation Division: Riverside County Department of Env Health

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

Violation Program: HW
Violation Source: CERS,

Site ID: 396348
Site Name: Lawrence Equipment
Violation Date: 10-27-2021
Citation: HSC 6.5 25250.22 - California Health and Safety Code, Chapter 6.5, Section(s) 25250.22
Violation Description: Failure to properly manage used oil and/or fuel filters in accordance with the requirements.
Violation Notes: OBSERVATION: Observed used oil/fuel filters being stored improperly. Please see compliance item #1 for further detail. CORRECTIVE ACTION: Owner/operator shall acquire an appropriate container with labeling.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 396348
Site Name: Lawrence Equipment
Violation Date: 06-11-2015
Citation: HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d)
Violation Description: Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes: Returned to compliance on 08/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 396348
Site Name: Lawrence Equipment
Violation Date: 08-13-2015
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description: Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes: Returned to compliance on 11/05/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 396348
Site Name: Lawrence Equipment
Violation Date: 06-11-2015
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Description: Business Plan Program - Administration/Documentation - General
Violation Notes: Returned to compliance on 08/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 396348
Site Name: Lawrence Equipment

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

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| Violation Date: | 06-11-2015 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit a site map with all required content. |
| Violation Notes: | Returned to compliance on 11/05/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 08-13-2015 |
| Citation: | 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f) |
| Violation Description: | Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date. |
| Violation Notes: | Returned to compliance on 11/05/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 10-27-2021 |
| Citation: | 40 CFR 1 265.174 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.174 |
| Violation Description: | Failure to inspect hazardous waste storage areas at least weekly and look for leaking and deteriorating containers. |
| Violation Notes: | OBSERVATION: Observed that weekly inspections of hazardous waste storage areas are occurring however, deficiencies observed are not being corrected. Please see compliance item #1 for further detail. CORRECTIVE ACTION: Owner/operator shall correct any deficiencies observed during weekly hazardous waste storage area inspections. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 06-11-2015 |
| Citation: | HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple |
| Violation Description: | Business Plan Program - Administration/Documentation - General |
| Violation Notes: | Returned to compliance on 11/05/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 10-27-2021 |
| Citation: | 40 CFR 1 265.31 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.31 |
| Violation Description: | Failure to maintain and operate the facility to minimize the |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

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| | possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. |
| Violation Notes: | OBSERVATION: Observed facility lacking an appropriate container with required labeling for used absorbent and used filters, used oil in pan located near north side of facility next to tractor, and coolant observed in five-gallon buckets without lids located under vehicle located on west side of facility. Observed compressor releasing oil onto surrounding ground and hazardous waste storage area lacking a spill kit nearby. These observations indicate weekly inspections contain deficiencies. CORRECTIVE ACTION: Owner/operator shall address the aforementioned compliance issues, and manage according to Title 22 hazardous waste regulations. Pictures can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 10-27-2021 |
| Citation: | HSC 6.95 25508(a)(3) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(3) |
| Violation Description: | Failure to complete and electronically submit a site map with all required content. |
| Violation Notes: | OBSERVATION: The site map submitted into the statewide information management system does not match the facility. Specifically, the locations of the hazardous materials storage and hazardous waste storage areas. CORRECTIVE ACTION: Owner/operator shall complete an annotated site map which includes all elements outlined in CA Health and Safety Code: north orientation, loading areas, internal roads, adjacent streets, storm and sewer drain, access and exit points, emergency shut offs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment. Submit site map into the statewide information management system (e.g. CERS) at http://cers.calepa.ca.gov. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 06-11-2015 |
| Citation: | 40 CFR 1 262.34(d)(5)(iii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(iii) |
| Violation Description: | Failure to ensure employees are familiar with the handling and compliance of hazardous waste regulations and emergency response. |
| Violation Notes: | Returned to compliance on 08/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 08-13-2015 |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

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| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit a site map with all required content. |
| Violation Notes: | Returned to compliance on 11/05/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 02-15-2022 |
| Citation: | HSC 6.95 25508(a)(3) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(3) |
| Violation Description: | Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities. |
| Violation Notes: | OBSERVATION: The most recent business plan submission in the statewide information management system (CERS) failed to contain a chemical inventory description page for oxygen and argon. CORRECTIVE ACTION: Owner/operator shall complete a chemical inventory page for all reportable hazardous materials on site and submit to the statewide information management system (e.g. CERS) at http://cers.calepa.ca.gov. OBSERVATION: The chemical inventory description page submitted for VP racing fuel contained incorrect information. Observed 7+ drums on-site. CORRECTIVE ACTION: Owner/operator shall update the chemical inventory page for VP racing fuel and submit to the statewide information management system (e.g. CERS) at http://cers.calepa.ca.gov. Please refer to a current Safety Data Sheet (SDS) for guidance. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 06-11-2015 |
| Citation: | HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple |
| Violation Description: | Business Plan Program - Operations/Maintenance - General |
| Violation Notes: | Returned to compliance on 08/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 06-11-2015 |
| Citation: | 40 CFR 1 265.173 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.173 |
| Violation Description: | Failure to properly close hazardous waste containers when not in active use. |
| Violation Notes: | Returned to compliance on 08/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 02-15-2022 |
| Citation: | 40 CFR 1 265.31 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.31 |
| Violation Description: | Failure to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. |
| Violation Notes: | OBSERVATION: Observed facility lacking an appropriate container with required labeling for used absorbent and used filters, used oil in pan located near north side of facility next to tractor, and coolant observed in five-gallon buckets without lids located under vehicle located on west side of facility. Observed compressor releasing oil onto surrounding ground and hazardous waste storage area lacking a spill kit nearby. These observations indicate weekly inspections contain deficiencies. CORRECTIVE ACTION: Owner/operator shall address the aforementioned compliance issues, and manage according to Title 22 hazardous waste regulations. Pictures can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |

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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 02-15-2022 |
| Citation: | 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f) |
| Violation Description: | Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date. |
| Violation Notes: | OBSERVATION: Observed oily water tote missing proper labels. CORRECTIVE ACTION: Owner/operator shall label hazardous waste containers with all the required information. Label shall include at least: the words ""hazardous waste"", generator name and address, accumulation start date, composition and physical state of waste, and hazardous property statement. Pictures can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |

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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 08-13-2015 |
| Citation: | 22 CCR 16 66266.130 - California Code of Regulations, Title 22, Chapter 16, Section(s) 66266.130 |
| Violation Description: | Failure to properly handle, manage, label, and recycle used oil and fuel filters. |
| Violation Notes: | Returned to compliance on 11/05/2015. |
| Violation Division: | Riverside County Department of Env Health |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

Violation Program: HW
Violation Source: CERS,

Site ID: 396348
Site Name: Lawrence Equipment
Violation Date: 08-13-2015
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Description: Business Plan Program - Administration/Documentation - General
Violation Notes: Returned to compliance on 11/05/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 396348
Site Name: Lawrence Equipment
Violation Date: 06-11-2015
Citation: 19 CCR 6.95 25508(a)(1) - California Code of Regulations, Title 19, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit the Business Activities Page and/or Business Owner Operator Identification Page.
Violation Notes: Returned to compliance on 08/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 396348
Site Name: Lawrence Equipment
Violation Date: 06-11-2015
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to establish and electronically submit an adequate training program in safety procedures in the event of a release or threatened release of a hazardous material.
Violation Notes: Returned to compliance on 08/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 396348
Site Name: Lawrence Equipment
Violation Date: 10-27-2021
Citation: 40 CFR 1 265.33 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.33
Violation Description: Failure to test and maintain as necessary all facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment to assure its proper operation in time of emergency.
Violation Notes: Returned to compliance on 02/15/2022. OBSERVATION: Observed fire extinguishers not properly maintained. Last serviced 05/14/2020 CORRECTIVE ACTION: Owner/operator shall properly test and maintain all emergency equipment. Pictures can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS,

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 06-11-2015 |
| Citation: | 40 CFR 1 265.171 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.171 |
| Violation Description: | Failure to accumulate hazardous waste in a container that is in good condition. |
| Violation Notes: | Returned to compliance on 08/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |

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| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 10-19-2018 |
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |
| Violation Notes: | Returned to compliance on 03/11/2019. OBSERVATION: No training records observed/provided during inspection. CORRECTIVE ACTION: Owner/operator shall provide training to all employees. Documentation shall be retained and be made available for inspection for a minimum period of 3 years from the date of the training. [[[Insert any specific correction items you need e.g., syllabus or initial training records]]] |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |

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|---|---|
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 06-11-2015 |
| Citation: | HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507 |
| Violation Description: | Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities. |
| Violation Notes: | Returned to compliance on 08/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |

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|---|---|
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 02-15-2022 |
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |
| Violation Notes: | OBSERVATION: No training records observed/provided during inspection. CORRECTIVE ACTION: Owner/operator shall provide training to all employees. Documentation shall be retained and be made available for |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

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| | inspection for a minimum period of 3 years from the date of the training. Documentation can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 06-11-2015 |
| Citation: | 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f) |
| Violation Description: | Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date. |
| Violation Notes: | Returned to compliance on 11/05/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 02-15-2022 |
| Citation: | HSC 6.5 25250.22 - California Health and Safety Code, Chapter 6.5, Section(s) 25250.22 |
| Violation Description: | Failure to properly manage used oil and/or fuel filters in accordance with the requirements. |
| Violation Notes: | OBSERVATION: Observed used oil/fuel filters being stored improperly. Please see compliance item #1 for further detail. CORRECTIVE ACTION: Owner/operator shall acquire an appropriate container with labeling. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 06-11-2015 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities. |
| Violation Notes: | Returned to compliance on 08/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 10-27-2021 |
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

| | |
|---|---|
| Violation Notes: | OBSERVATION: No training records observed/provided during inspection. CORRECTIVE ACTION: Owner/operator shall provide training to all employees. Documentation shall be retained and be made available for inspection for a minimum period of 3 years from the date of the training. Documentation can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 10-27-2021 |
| Citation: | Un-Specified |
| Violation Description: | Business Plan Program - Operations/Maintenance - General Local Ordinance |
| Violation Notes: | OBSERVATION: Observed lack of proper signage posted for hazardous waste storage and hazardous materials storage areas. CORRECTIVE ACTION: Owner/operator shall properly identify all hazardous materials storage areas appropriately. Pictures can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 06-11-2015 |
| Citation: | 40 CFR 1 262.34(d)(5)(ii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(ii) |
| Violation Description: | Failure to post, next to the telephone, Emergency Information (SQG) containing the location of emergency equipment, contact names and numbers. |
| Violation Notes: | Returned to compliance on 11/05/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 02-15-2022 |
| Citation: | Un-Specified |
| Violation Description: | Business Plan Program - Operations/Maintenance - General Local Ordinance |
| Violation Notes: | OBSERVATION: Observed posted NFPA-704 signs to inaccurately reflect the materials being stored in west building. Specifically, in regards to racing fuel. CORRECTIVE ACTION: Owner/operator shall research chemical safety data sheets and replace incorrect NFPA-704 signs. Pictures can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

| | |
|---|---|
| Violation Date: | 10-27-2021 |
| Citation: | HSC 6.95 25508(a)(3) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(3) |
| Violation Description: | Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities. |
| Violation Notes: | OBSERVATION: The most recent business plan submission in the statewide information management system (CERS) failed to contain a chemical inventory description page for oxygen and argon. CORRECTIVE ACTION: Owner/operator shall complete a chemical inventory page for all reportable hazardous materials on site and submit to the statewide information management system (e.g. CERS) at http://cers.calepa.ca.gov. OBSERVATION: The chemical inventory description page submitted for VP racing fuel contained incorrect information. Observed 7+ drums on-site. CORRECTIVE ACTION: Owner/operator shall update the chemical inventory page for VP racing fuel and submit to the statewide information management system (e.g. CERS) at http://cers.calepa.ca.gov. Please refer to a current Safety Data Sheet (SDS) for guidance. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 02-15-2022 |
| Citation: | HSC 6.95 25508(a)(3) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(3) |
| Violation Description: | Failure to complete and electronically submit a site map with all required content. |
| Violation Notes: | OBSERVATION: The site map submitted into the statewide information management system does not match the facility. Specifically, the locations of the hazardous materials storage and hazardous waste storage areas. CORRECTIVE ACTION: Owner/operator shall complete an annotated site map which includes all elements outlined in CA Health and Safety Code: north orientation, loading areas, internal roads, adjacent streets, storm and sewer drain, access and exit points, emergency shut offs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment. Submit site map into the statewide information management system (e.g. CERS) at http://cers.calepa.ca.gov. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 02-15-2022 |
| Citation: | 40 CFR 1 265.174 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.174 |
| Violation Description: | Failure to inspect hazardous waste storage areas at least weekly and look for leaking and deteriorating containers. |
| Violation Notes: | OBSERVATION: Observed that weekly inspections of hazardous waste storage areas are occurring however, deficiencies observed are not being corrected. Please see compliance item #1 for further detail. CORRECTIVE ACTION: Owner/operator shall correct any deficiencies observed during weekly hazardous waste storage area inspections. |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

| | |
|---|---|
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 06-11-2015 |
| Citation: | 40 CFR 1 265.31 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.31 |
| Violation Description: | Failure to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, or surface water which could threaten human health or the environment.. |
| Violation Notes: | Returned to compliance on 08/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 10-27-2021 |
| Citation: | Un-Specified |
| Violation Description: | Business Plan Program - Operations/Maintenance - General Local Ordinance |
| Violation Notes: | OBSERVATION: Observed posted NFPA-704 signs to inaccurately reflect the materials being stored in west building. Specifically, in regards to racing fuel. CORRECTIVE ACTION: Owner/operator shall research chemical safety data sheets and replace incorrect NFPA-704 signs. Pictures can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 09-04-2018 |
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |
| Violation Notes: | Returned to compliance on 03/11/2019. OBSERVATION: No training records observed/provided during inspection. CORRECTIVE ACTION: Owner/operator shall provide training to all employees. Documentation shall be retained and be made available for inspection for a minimum period of 3 years from the date of the training. Copies of training records can be emailed to rsgarcia@rivco.org or faxed to 951-791-1778. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Violation Date: | 06-11-2015 |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description: Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes: Returned to compliance on 11/05/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 02-15-2022
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-11-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-11-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-13-2015
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-27-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Facility is a tortilla machine manufacturing company with the following hazardous waste streams on-site: chromium [metal shavings] and used oil.
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-05-2015

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-04-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 10-19-2018
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-04-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 10-19-2018
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-05-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 02-15-2022
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-13-2015
Violations Found: Yes

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

| | |
|---|---|
| Eval Type: | Other, not routine, done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 10-27-2021 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Facility is a tortilla machine manufacturing company with various lubricating oils, compressed gases, racing fuel, disinfectant, and lpg fuel on-site. |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |

Enforcement Action:

| | |
|---|---|
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Site Address: | 1879 W LINCOLN ST |
| Site City: | BANNING |
| Site Zip: | 92220 |
| Enf Action Date: | 06-11-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Division: | Riverside County Department of Env Health |
| Enf Action Program: | HMRRP |
| Enf Action Source: | CERS, |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Site Address: | 1879 W LINCOLN ST |
| Site City: | BANNING |
| Site Zip: | 92220 |
| Enf Action Date: | 06-11-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Division: | Riverside County Department of Env Health |
| Enf Action Program: | HW |
| Enf Action Source: | CERS, |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Site Address: | 1879 W LINCOLN ST |
| Site City: | BANNING |
| Site Zip: | 92220 |
| Enf Action Date: | 08-13-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Division: | Riverside County Department of Env Health |
| Enf Action Program: | HMRRP |
| Enf Action Source: | CERS, |
| Site ID: | 396348 |
| Site Name: | Lawrence Equipment |
| Site Address: | 1879 W LINCOLN ST |
| Site City: | BANNING |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

| | |
|---|---|
| Site Zip: | 92220 |
| Enf Action Date: | 08-13-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Division: | Riverside County Department of Env Health |
| Enf Action Program: | HW |
| Enf Action Source: | CERS, |

Coordinates:

| | |
|---|---|
| Site ID: | 396348 |
| Facility Name: | Lawrence Equipment |
| Env Int Type Code: | HMBP |
| Program ID: | 10329616 |
| Ref Point Type Desc: | Center of a facility or station., |
| Latitude: | 33.921650 |
| Longitude: | -116.897170 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | JOHN LAWRENCE |
| Affiliation Address: | 2034 N. Peck Road |
| Affiliation City: | South El Monte |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 91733 |
| Affiliation Phone: | (562) 619-0205, |
| | |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | LAWRENCE EQUIPMENT |
| Affiliation Phone: | , |
| | |
| Affiliation Type Desc: | CUPA District |
| Entity Name: | Riverside Cnty Env Health |
| Affiliation Address: | 4065 County Circle Drive, Room 104 |
| Affiliation City: | Riverside |
| Affiliation State: | CA |
| Affiliation Zip: | 92503 |
| Affiliation Phone: | (951) 358-5055, |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | Lawrence Equipment, Inc. |
| Affiliation Phone: | (626) 442-2894, |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | David Harvey |
| Affiliation Address: | 2034 North Peck Road |
| Affiliation City: | South El Monte |
| Affiliation State: | CA |
| Affiliation Zip: | 91733 |
| Affiliation Phone: | , |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Jose Jacquez |
| Entity Title: | Controller |
| Affiliation Phone: | , |

**LAWRENCE EQUIPMENT BANNING (Continued)** **S123077709**

Affiliation Type Desc: Document Preparer
Entity Name: JOSE JACQUEZ
Affiliation Phone: ,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Affiliation Address: 2034 N. Peck Road
Affiliation City: South El Monte
Affiliation State: CA
Affiliation Zip: 91733
Affiliation Phone: ,

HWTS:
Name: LAWRENCE EQUIPMENT
Address: 1879 W LINCOLN ST
City,State,Zip: BANNING, CA 92220
EPA ID: CAL000385093
Create Date: 05/02/2013
Mailing Address: 2034 PECK RD
Mailing City,State,Zip: SOUTH EL MONTE, CA 917333727
Owner Name: LAWRENCE EQUIPMENT INC
Owner Address: 2034 PECK RD
Owner City,State,Zip: SOUTH EL MONTE, CA 917333727
Contact Name: JOSE JACQUEZ
Contact Address: 2034 NORTH PECK ROAD
City,State,Zip: SOUTH EL MONTE, CA 91733
Facility Status: Active
Facility Type: PERMANENT
Category: STATE
Latitude: 33.921665
Longitude: -116.898827

NAICS:
EPA ID: CAL000385093
Create Date: 2013-05-02 15:52:52.837
NAICS Code: 333294
NAICS Description: Food Product Machinery Manufacturing
Issued EPA ID Date: 2013-05-02 15:52:52.83300
Facility Name: LAWRENCE EQUIPMENT
Facility Address: 1879 W LINCOLN ST
Facility City: BANNING
Facility State: CA
Facility Zip: 922204218

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**F25** **WESTERN DENTAL SERVICES INC** **RCRA NonGen / NLR** **1024822043**
**ENE** **887 W RAMSEY ST** **CAL000339283**
**1/8-1/4** **BANNING, CA 92220**
**0.229 mi.**
**1210 ft.** **Site 2 of 4 in cluster F**

**Relative:** **Lower**
**Actual:** **2384 ft.**

RCRA NonGen / NLR:
Date Form Received by Agency: 20081223
Handler Name: WESTERN DENTAL SERVICES INC
Handler Address: 887 W RAMSEY ST
Handler City,State,Zip: BANNING, CA 92220
EPA ID: CAL000339283

**WESTERN DENTAL SERVICES INC (Continued)** **1024822043**

| | | |
|---|---|---|
| Contact Name: | | KAREN NGUYEN |
| Contact Address: | | 530 S MAIN ST |
| Contact City,State,Zip: | | ORANGE, CA 92868-0000 |
| Contact Telephone: | | 714-571-3564 |
| Contact Fax: | | 714-571-3599 |
| Contact Email: | | KNGUYEN@WESTERNDENTAL.COM |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Active Site Indicator: | | Handler Activities |
| Mailing Address: | | 530 S MAIN STREET |
| Mailing City,State,Zip: | | ORANGE, CA 92868-0000 |
| Owner Name: | WESTERN DENTAL SERVICES, INC | |
| Owner Type: | | Other |
| Operator Name: | KAREN NGUYEN | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | Yes |
| Universal Waste Destination Facility: | | Yes |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |
| Corrective Action Priority Ranking: | | No NCAPS ranking |
| Environmental Control Indicator: | | No |
| Institutional Control Indicator: | | No |
| Human Exposure Controls Indicator: | | N/A |
| Groundwater Controls Indicator: | | N/A |
| Significant Non-Complier Universe: | | No |
| Unaddressed Significant Non-Complier Universe: | | No |
| Addressed Significant Non-Complier Universe: | | No |
| Significant Non-Complier With a Compliance Schedule Universe: | | No |
| Handler Date of Last Change: | | 20180905 |
| Recognized Trader-Importer: | | No |
| Recognized Trader-Exporter: | | No |
| Importer of Spent Lead Acid Batteries: | | No |
| Exporter of Spent Lead Acid Batteries: | | No |
| Recycler Activity Without Storage: | | No |
| Manifest Broker: | | No |
| Sub-Part P Indicator: | | No |

**WESTERN DENTAL SERVICES INC (Continued)** **1024822043**

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: KAREN NGUYEN
Legal Status: Other
Owner/Operator Address: 530 S MAIN ST
Owner/Operator City,State,Zip: ORANGE, CA 92868-0000
Owner/Operator Telephone: 714-571-3564

Owner/Operator Indicator: Owner
Owner/Operator Name: WESTERN DENTAL SERVICES, INC
Legal Status: Other
Owner/Operator Address: 530 S MAIN STREET
Owner/Operator City,State,Zip: ORANGE, CA 92868-0000
Owner/Operator Telephone: 714-480-3000

Historic Generators:
Receive Date: 20081223
Handler Name: WESTERN DENTAL SERVICES INC
Federal Waste Generator Description: Not a generator, verified
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes

List of NAICS Codes and Descriptions:
NAICS Code: 62121
NAICS Description: OFFICES OF DENTISTS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

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**F26** **WESTERN DENTAL** **CERS HAZ WASTE** **S123535333**
**ENE** **887 W RAMSEY** **CERS** **N/A**
**1/8-1/4** **BANNING, CA 92220**
**0.229 mi.**
**1210 ft.** **Site 3 of 4 in cluster F**

**Relative:**
**Lower**

**Actual:**
**2384 ft.**

CERS HAZ WASTE:
Name: WESTERN DENTAL
Address: 887 W RAMSEY
City,State,Zip: BANNING, CA 92220
Site ID: 85510
CERS ID: 10451701
CERS Description: Hazardous Waste Generator

CERS:
Name: WESTERN DENTAL
Address: 887 W RAMSEY
City,State,Zip: BANNING, CA 92220

**WESTERN DENTAL (Continued)** **S123535333**

Site ID: 85510
CERS ID: 10451701
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-06-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-29-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-11-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Facility is a dental office which generates amalgam and amalgam-related wastes. #43. Facility shall ensure three years of waste removal documentation [manifests, certificates, and so forth] are available at the time of inspection.
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Affiliation:
Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Affiliation Address: 530 S. Main Street
Affiliation City: Orange
Affiliation State: CA
Affiliation Zip: 92868
Affiliation Phone: ,

Affiliation Type Desc: Legal Owner
Entity Name: Western Dental Services, Inc.
Affiliation Address: 530 S. Main Street
Affiliation City: Orange
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92868
Affiliation Phone: (714) 480-3000,

Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Zip: 92503

**WESTERN DENTAL (Continued)** **S123535333**

Affiliation Phone: (951) 358-5055,

Affiliation Type Desc: Document Preparer
Entity Name: Gerardo Mejia
Affiliation Phone: ,

Affiliation Type Desc: Environmental Contact
Entity Name: Anna Moreno
Affiliation Address: 530 South Main St.
Affiliation City: Orange
Affiliation State: CA
Affiliation Zip: 92868
Affiliation Phone: ,

Affiliation Type Desc: Parent Corporation
Entity Name: Western Dental Services, Inc.
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: Gerardo Mejia
Entity Title: OSHA Compliance Manager
Affiliation Phone: ,

Affiliation Type Desc: Operator
Entity Name: Western Dental Services, Inc.
Affiliation Phone: (714) 480-3000,

Affiliation Type Desc: Property Owner
Entity Name: Fifth Keil Company
Affiliation Address: 244 Kearny Street, 3rd Floor
Affiliation City: San Francisco
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 94108
Affiliation Phone: (415) 781-5546,

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**I27** **CERTIFIED TIRES & SERVICE CTRS INC #16** **CERS HAZ WASTE** **S113122514**
**NW** **1820 W RAMSEY ST** **HAZNET** **N/A**
**1/8-1/4** **BANNING, CA 92220** **CERS**
**0.239 mi.** **HWTS**
**1261 ft.** **Site 1 of 4 in cluster I**

**Relative: Higher**
**Actual: 2430 ft.**

CERS HAZ WASTE:
Name: TIRE CHOICE
Address: 1820 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 17836
CERS ID: 10320475
CERS Description: Hazardous Waste Generator

HAZNET:
Name: CERTIFIED TIRES & SERVICE CTRS INC #16
Address: 1820 W RAMSEY ST
City,State,Zip: BANNING, CA 925070000
Contact: MICHELE SCHOOF
Telephone: 9519004015

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

| | |
|---|---|
| Mailing Address: | 1875 IOWA AVE |
| Year: | 2019 |
| Gepaid: | CAL000260266 |
| TSD EPA ID: | CAL000330453 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.08750 |
| Year: | 2019 |
| Gepaid: | CAL000260266 |
| TSD EPA ID: | CAL000330453 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H010 - Metals Recovery Including Retoring,Smelting,Chemicals,Ect |
| Tons: | 0.35000 |
| Year: | 2018 |
| Gepaid: | CAL000260266 |
| TSD EPA ID: | CAL000330453 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H010 - Metals Recovery Including Retoring,Smelting,Chemicals,Ect |
| Tons: | 0.27500 |
| Year: | 2018 |
| Gepaid: | CAL000260266 |
| TSD EPA ID: | CAT080013352 |
| CA Waste Code: | 223 - Unspecified oil-containing waste |
| Disposal Method: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Tons: | 0.12510 |
| Year: | 2017 |
| Gepaid: | CAL000260266 |
| TSD EPA ID: | CAL000330453 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H010 - Metals Recovery Including Retoring,Smelting,Chemicals,Ect |
| Tons: | 0.125 |
| Year: | 2017 |
| Gepaid: | CAL000260266 |
| TSD EPA ID: | CAT080013352 |
| CA Waste Code: | 223 - Unspecified oil-containing waste |
| Disposal Method: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Tons: | 0.22935 |
| Year: | 2017 |
| Gepaid: | CAL000260266 |
| TSD EPA ID: | CAL000330453 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.02 |
| Year: | 2017 |
| Gepaid: | CAL000260266 |

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

TSD EPA ID: CAD097030993
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.019

Year: 2016
Gepaid: CAL000260266
TSD EPA ID: CAD097030993
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.03

Year: 2016
Gepaid: CAL000260266
TSD EPA ID: CAT080013352
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons: 0.25854

Click this hyperlink while viewing on your computer to access
15 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:
Year: 2006
Gen EPA ID: CAL000260266

Shipment Date: 20061222
Creation Date: 4/19/2007 18:30:21
Receipt Date: 20061228
Manifest ID: 001461415JJK
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICES
TSDF EPA ID: CAD028409019
Trans Name: CROSBY AND OVERTON
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Shipment Date: 20060914
Creation Date: 3/30/2007 13:31:06
Receipt Date: 20060918
Manifest ID: 001464564JJK
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

| | |
|---|---|
| Shipment Date: | 20060616 |
| Creation Date: | 8/25/2006 18:37:36 |
| Receipt Date: | 20060619 |
| Manifest ID: | 24901945 |
| Trans EPA ID: | CAD982413262 |
| Trans Name: | EVERGREEN ENVIRONMENTAL SOUTH |
| TSDF EPA ID: | CAD028409019 |
| Trans Name: | CROSBY OVERTON |
| TSDF Alt EPA ID: | CAD028409019 |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

| | |
|---|---|
| Shipment Date: | 20060425 |
| Creation Date: | 12/22/2006 18:30:48 |
| Receipt Date: | 20060501 |
| Manifest ID: | 25003989 |
| Trans EPA ID: | CAD982413262 |
| Trans Name: | EVERGREEN ENVIRONMENTAL SOUTH |
| TSDF EPA ID: | CAD028409019 |
| Trans Name: | CROSBY OVERTON |
| TSDF Alt EPA ID: | CAD028409019 |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

| | |
|---|---|
| Shipment Date: | 20060112 |
| Creation Date: | 6/22/2006 18:32:46 |
| Receipt Date: | 20060116 |
| Manifest ID: | 23800551 |
| Trans EPA ID: | CAD981696420 |
| Trans Name: | EVERGREEN ENVIRONMENTAL SVCS |
| TSDF EPA ID: | CAD028409019 |
| Trans Name: | CROSBY & OVERTON |
| TSDF Alt EPA ID: | CAD028409019 |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 2007 |
| Gen EPA ID: | CAL000260266 |

| | |
|---|---|
| Shipment Date: | 20071002 |
| Creation Date: | 1/9/2008 18:30:21 |
| Receipt Date: | 20071008 |
| Manifest ID: | 002476180JJK |
| Trans EPA ID: | CAD982413262 |
| Trans Name: | EVERGREEN ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD028409019 |

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

Trans Name: CROSBY & OVERTON
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Shipment Date: 20070625
Creation Date: 11/3/2007 18:30:29
Receipt Date: 20070702
Manifest ID: 002470225JJK
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICES
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Shipment Date: 20070409
Creation Date: 8/23/2007 18:30:34
Receipt Date: 20070416
Manifest ID: 001712895JJK
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICE
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Shipment Date: 20070405
Creation Date: 8/23/2007 18:30:14
Receipt Date: 20070409
Manifest ID: 001826020JJK
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICE
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Additional Info:
Year: 2014
Gen EPA ID: CAL000260266

Shipment Date: 20141024
Creation Date: 1/26/2015 22:15:11
Receipt Date: 20141105
Manifest ID: 013813265JJK

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

Trans EPA ID: CAD028277036
Trans Name: ASBURY ENVIRONMENTAL SERVICES
TSDF EPA ID: CAT080013352
Trans Name: DEMENNO / KERDOON
Waste Code Description: 223 - Unspecified oil-containing waste
Meth Code: H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons: 0.22935
Waste Quantity: 55
Quantity Unit: G

Additional Info:
Year: 2005
Gen EPA ID: CAL000260266

Shipment Date: 20051102
Creation Date: 3/14/2007 18:30:14
Receipt Date: 20051109
Manifest ID: 24337063
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICES
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
TSDF Alt EPA ID: CAD028409019
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H01 - Transfer Station
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Shipment Date: 20050210
Creation Date: 4/29/2005 8:38:49
Receipt Date: 20050211
Manifest ID: 23792006
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERV
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
TSDF Alt EPA ID: CAD028409019
Waste Code Description: 343 - Unspecified organic liquid mixture
RCRA Code: NONE
Meth Code: H01 - Transfer Station
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Additional Info:
Year: 2010
Gen EPA ID: CAL000260266

Shipment Date: 20101028
Creation Date: 1/3/2011 18:30:39
Receipt Date: 20101105
Manifest ID: 007824040JJK
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICES

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

TSDF EPA ID: CAD982444481
Trans Name: FILTER RECYCLING SERVICE
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Additional Info:
Year: 2008
Gen EPA ID: CAL000260266

Shipment Date: 20080416
Creation Date: 6/9/2008 18:30:32
Receipt Date: 20080421
Manifest ID: 003941666JJK
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICES
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Shipment Date: 20080410
Creation Date: 6/4/2008 18:30:29
Receipt Date: 20080414
Manifest ID: 003941576JJK
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICES
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Shipment Date: 20080320
Creation Date: 5/21/2008 18:30:07
Receipt Date: 20080320
Manifest ID: 003558884JJK
Trans EPA ID: CAD028277036
Trans Name: ASBURY ENVIRONMENTAL SERVICES
TSDF EPA ID: CAT080013352
Trans Name: DEMENNO / KERDOON
Waste Code Description: 135 - Unspecified aqueous solution
Meth Code: H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons: 3.36
Waste Quantity: 800
Quantity Unit: G

Shipment Date: 20080206

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

| | |
|---|---|
| Creation Date: | 4/3/2008 18:30:13 |
| Receipt Date: | 20080211 |
| Manifest ID: | 003851389JJK |
| Trans EPA ID: | CAD982413262 |
| Trans Name: | EVERGREEN ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD028409019 |
| Trans Name: | CROSBY & OVERTON |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| Meth Code: | H061 - Fuel Blending Prior To Energy Recovery At Another Site |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 2017 |
| Gen EPA ID: | CAL000260266 |
| Shipment Date: | 20171114 |
| Creation Date: | 6/13/2018 18:30:46 |
| Receipt Date: | 20171128 |
| Manifest ID: | 017726479JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.22935 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| Shipment Date: | 20171026 |
| Creation Date: | 6/13/2018 18:30:34 |
| Receipt Date: | 20171026 |
| Manifest ID: | 018042336JJK |
| Trans EPA ID: | CAL000330453 |
| Trans Name: | CLEANTECH ENVIRONMENTAL |
| TSDF EPA ID: | CAL000330453 |
| Trans Name: | CLEANTECH ENVIRONMENTAL |
| Waste Code Description: | 352 - Other organic solids |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.02 |
| Waste Quantity: | 40 |
| Quantity Unit: | P |
| Shipment Date: | 20170831 |
| Creation Date: | 6/20/2018 18:31:51 |
| Receipt Date: | 20170831 |
| Manifest ID: | 017483992JJK |
| Trans EPA ID: | CAL000330453 |
| Trans Name: | CLEANTECH ENVIRONMENTAL |
| TSDF EPA ID: | CAL000330453 |
| Trans Name: | CLEANTECH ENVIRONMENTAL |
| Waste Code Description: | 352 - Other organic solids |
| Meth Code: | H010 - Metals Recovery Including Retoring,Smelting,Chemicals,Ect |

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

| | |
|---|---|
| Quantity Tons: | 0.125 |
| Waste Quantity: | 250 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20170531 |
| Creation Date: | 5/17/2018 18:30:51 |
| Receipt Date: | 20170605 |
| Manifest ID: | 017448977JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US ECOLOGY VERNON INC |
| Waste Code Description: | 352 - Other organic solids |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.019 |
| Waste Quantity: | 38 |
| Quantity Unit: | P |

Additional Info:

| | |
|---|---|
| Year: | 2013 |
| Gen EPA ID: | CAL000260266 |
| | |
| Shipment Date: | 20130930 |
| Creation Date: | 11/7/2013 22:15:14 |
| Receipt Date: | 20131004 |
| Manifest ID: | 011732236JJK |
| Trans EPA ID: | TXR000081205 |
| Trans Name: | SAFETY KLEEN SYSTEMS INC |
| TSDF EPA ID: | CAD982444481 |
| Trans Name: | FILTER RECYCLING SERVICE |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| | |
| Shipment Date: | 20130418 |
| Creation Date: | 6/18/2013 22:15:15 |
| Receipt Date: | 20130418 |
| Manifest ID: | 011353301JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| Waste Code Description: | 222 - Oil/water separation sludge |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 2.919 |
| Waste Quantity: | 700 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 2009 |
| Gen EPA ID: | CAL000260266 |

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

| | |
|---|---|
| Shipment Date: | 20091215 |
| Creation Date: | 3/5/2010 18:30:38 |
| Receipt Date: | 20091222 |
| Manifest ID: | 006128673JJK |
| Trans EPA ID: | CAD982413262 |
| Trans Name: | EVERGREEN ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD028409019 |
| Trans Name: | CROSBY & OVERTON |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.34 |
| Waste Quantity: | 100 |
| Quantity Unit: | G |

| | |
|---|---|
| Shipment Date: | 20090917 |
| Creation Date: | 11/3/2009 18:30:20 |
| Receipt Date: | 20090922 |
| Manifest ID: | 001712480JJK |
| Trans EPA ID: | CAD982413262 |
| Trans Name: | EVERGREEN ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD028409019 |
| Trans Name: | CROSBY AND OVERTON |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 2004 |
| Gen EPA ID: | CAL000260266 |

| | |
|---|---|
| Shipment Date: | 20041013 |
| Creation Date: | 1/11/2005 18:30:51 |
| Receipt Date: | 20041015 |
| Manifest ID: | 23498374 |
| Trans EPA ID: | CAD982413262 |
| Trans Name: | EVERGREEN ENVIRONMENTAL SERV |
| TSDF EPA ID: | CAD028409019 |
| Trans Name: | CROSBY & OVERTON |
| TSDF Alt EPA ID: | CAD028409019 |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | NONE |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

| | |
|---|---|
| Shipment Date: | 20040623 |
| Creation Date: | 11/1/2004 9:00:46 |
| Receipt Date: | 20040702 |
| Manifest ID: | 23490679 |
| Trans EPA ID: | CAD982413262 |
| Trans Name: | EVERGREEN ENVIRONMENTAL SERV |
| TSDF EPA ID: | CAD028409019 |

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

Trans Name: CROSBY & OVERTON
TSDF Alt EPA ID: CAD028409019
Waste Code Description: 343 - Unspecified organic liquid mixture
RCRA Code: NONE
Meth Code: H01 - Transfer Station
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Shipment Date: 20040407
Creation Date: 10/14/2004 7:49:48
Receipt Date: 20040409
Manifest ID: 23490460
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERV
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
TSDF Alt EPA ID: CAD028409019
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H01 - Transfer Station
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Shipment Date: 20040128
Creation Date: 11/18/2004 8:25:56
Receipt Date: 20040130
Manifest ID: 22607681
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICES
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
TSDF Alt EPA ID: CAD028409019
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H01 - Transfer Station
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

Additional Info:
Year: 2003
Gen EPA ID: CAL000260266

Shipment Date: 20031001
Creation Date: 8/3/2004 15:01:39
Receipt Date: 20031003
Manifest ID: 22610732
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICES
TSDF EPA ID: CAD028409019
Trans Name: CROSBY & OVERTON
TSDF Alt EPA ID: CAD028409019
Waste Code Description: 343 - Unspecified organic liquid mixture
Meth Code: H01 - Transfer Station
Quantity Tons: 0.187
Waste Quantity: 55
Quantity Unit: G

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

| | |
|---|---|
| Shipment Date: | 20030618 |
| Creation Date: | 7/22/2004 7:52:41 |
| Receipt Date: | 20030620 |
| Manifest ID: | 22553078 |
| Trans EPA ID: | CAD982413262 |
| TSDF EPA ID: | CAD028409019 |
| TSDF Alt EPA ID: | CAD028409019 |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 2012 |
| Gen EPA ID: | CAL000260266 |

| | |
|---|---|
| Shipment Date: | 20121226 |
| Creation Date: | 3/15/2013 22:15:20 |
| Receipt Date: | 20130109 |
| Manifest ID: | 010864473JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.22935 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

| | |
|---|---|
| Shipment Date: | 20120423 |
| Creation Date: | 6/14/2012 20:30:09 |
| Receipt Date: | 20120501 |
| Manifest ID: | 009484256JJK |
| Trans EPA ID: | CAD982413262 |
| Trans Name: | EVERGREEN ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD982444481 |
| Trans Name: | FILTER RECYCLING SERVICE |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |

CERS:

| | |
|---|---|
| Name: | TIRE CHOICE |
| Address: | 1820 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Site ID: | 17836 |
| CERS ID: | 10320475 |
| CERS Description: | Chemical Storage Facilities |

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

Violations:

| | |
|---|---|
| Site ID: | 17836 |
| Site Name: | Tire Choice |
| Violation Date: | 02-05-2015 |
| Citation: | 22 CCR 16 66266.130 - California Code of Regulations, Title 22, Chapter 16, Section(s) 66266.130 |
| Violation Description: | Failure to properly handle, manage, label, and recycle used oil and fuel filters. |
| Violation Notes: | Returned to compliance on 05/07/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |

| | |
|---|---|
| Site ID: | 17836 |
| Site Name: | Tire Choice |
| Violation Date: | 02-05-2015 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit a site map with all required content. |
| Violation Notes: | Returned to compliance on 05/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |

| | |
|---|---|
| Site ID: | 17836 |
| Site Name: | Tire Choice |
| Violation Date: | 02-05-2015 |
| Citation: | 40 CFR 1 265.173 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.173 |
| Violation Description: | Failure to properly close hazardous waste containers when not in active use. |
| Violation Notes: | Returned to compliance on 05/07/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 04-05-2018 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |

| | |
|---|---|
| Eval General Type: | Other/Unknown |
| Eval Date: | 03-04-2015 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 03-18-2020 |

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

Violations Found: No
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-18-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Fire extinguishers last serviced April 2019.
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-05-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-05-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 04-11-2018
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 05-07-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Enforcement Action:
Site ID: 17836
Site Name: Tire Choice
Site Address: 1820 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 02-05-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

Enf Action Program: HMRRP
Enf Action Source: CERS,

Site ID: 17836
Site Name: Tire Choice
Site Address: 1820 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 02-05-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HW
Enf Action Source: CERS,

Coordinates:
Site ID: 17836
Facility Name: Tire Choice
Env Int Type Code: HWG
Program ID: 10320475
Ref Point Type Desc: Center of a facility or station.,
Latitude: 33.924920
Longitude: -116.896540

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: Greg Peterson
Affiliation Address: 200 Holleder Parkway
Affiliation City: Rochester
Affiliation State: NY
Affiliation Zip: 14615
Affiliation Phone: ,

Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055,

Affiliation Type Desc: Identification Signer
Entity Name: Jack Fisher
Entity Title: Agent for MNRO Holdings, LLC
Affiliation Phone: ,

Affiliation Type Desc: Operator
Entity Name: Tire Choice
Affiliation Phone: (585) 647-6400,

Affiliation Type Desc: Document Preparer
Entity Name: Jack Fisher
Affiliation Phone: ,

Affiliation Type Desc: Parent Corporation
Entity Name: MNRO Holdings, LLC dba Tire Choice

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

Affiliation Phone: ,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Affiliation Address: 200 Holleder Parkway
Affiliation City: Rochester
Affiliation State: NY
Affiliation Zip: 14615
Affiliation Phone: ,

Affiliation Type Desc: Legal Owner
Entity Name: MNRO Holdings, LLC
Affiliation Address: 200 Holleder Parkway
Affiliation City: Rochester
Affiliation State: NY
Affiliation Country: United States
Affiliation Zip: 14615
Affiliation Phone: (585) 647-6400,

Affiliation Type Desc: Property Owner
Entity Name: Robbie Lee Carlton
Affiliation Address: 620 Benowe Scotia
Affiliation City: Glendale
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 91207
Affiliation Phone: (818) 247-8985,

HWTS:
Name: CERTIFIED TIRES & SERVICE CTRS INC #16
Address: 1820 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
EPA ID: CAL000260266
Inactive Date: 06/30/2019
Create Date: 10/03/2002
Mailing Address: 221 E WILLIS RD SUITE 8
Mailing City,State,Zip: CHANDLER, AZ 852860000
Owner Name: JEFF DARROW
Owner Address: 221 E WILLIS RD SUITE 8
Owner City,State,Zip: CHANDLER, AZ 852860000
Contact Name: MICHELE SCHOOF
Contact Address: 221 E WILLIS RD SUITE 8
City,State,Zip: CHANDLER, AZ 85286
Facility Status: Inactive
Facility Type: PERMANENT
Category: STATE
Latitude: 33.925434
Longitude: -116.896912

NAICS:
EPA ID: CAL000260266
Create Date: 2002-10-03 14:54:26.483
NAICS Code: 811111
NAICS Description: General Automotive Repair
Issued EPA ID Date: 2002-10-03 14:54:26.46700
Inactive Date: 2019-06-30 00:00:00

**CERTIFIED TIRES & SERVICE CTRS INC #16 (Continued)** **S113122514**

| | |
|---|---|
| Facility Name: | CERTIFIED TIRES & SERVICE CTRS INC #16 |
| Facility Address: | 1820 W RAMSEY ST |
| Facility City: | BANNING |
| Facility State: | CA |
| Facility Zip: | 92220 |

---

**I28** **CERTIFIED TIRE-1621** **RCRA NonGen / NLR** **1025871490**
**NW** **1820 W RAMSEY ST** **CAL000444604**
**1/8-1/4** **BANNING, CA 92220**
**0.239 mi.**
**1261 ft.** **Site 2 of 4 in cluster I**

**Relative:** **Higher**

**Actual:** **2430 ft.**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 20190321 |
| Handler Name: | CERTIFIED TIRE-1621 | |
| Handler Address: | | 1820 W RAMSEY ST |
| Handler City,State,Zip: | | BANNING, CA 92220 |
| EPA ID: | | CAL000444604 |
| Contact Name: | | JOHN A HEISMAN |
| Contact Address: | | 200 HOLLEDER PKWY |
| Contact City,State,Zip: | | ROCHESTER, NY 14615 |
| Contact Telephone: | | 585-784-3384 |
| Contact Fax: | | 585-647-0963 |
| Contact Email: | | JACK.HEISMAN@MONRO.COM |
| EPA Region: | | 09 |
| Federal Waste Generator Description: | | Not a generator, verified |
| Active Site Indicator: | | Handler Activities |
| Mailing Address: | | 1820 W RAMSEY ST |
| Mailing City,State,Zip: | | FONTANA, CA 92220 |
| Owner Name: | MNRO HOLDINGS LLC C/O MONRO INC | |
| Owner Type: | | Other |
| Operator Name: | JOHN A HEISMAN | |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | Yes |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | Yes |
| Universal Waste Destination Facility: | | Yes |
| Federal Universal Waste: | | No |
| Active Site State-Reg Handler: | | --- |
| Hazardous Secondary Material Indicator: | | N |
| Commercial TSD Indicator: | | No |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | | No |
| Corrective Action Workload Universe: | | No |
| Subject to Corrective Action Universe: | | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | | No |

**CERTIFIED TIRE-1621 (Continued)** **1025871490**

| | |
|---|---|
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20190628 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: JOHN A HEISMAN | |
| Legal Status: | Other |
| Owner/Operator Address: | 200 HOLLEDER PKWY |
| Owner/Operator City,State,Zip: | ROCHESTER, NY 14615 |
| Owner/Operator Telephone: | 585-784-3384 |

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: MNRO HOLDINGS LLC C/O MONRO INC | |
| Legal Status: | Other |
| Owner/Operator Address: | 200 HOLLEDER PKWY |
| Owner/Operator City,State,Zip: | ROCHESTER, NY 14615 |
| Owner/Operator Telephone: | 585-784-3384 |

Historic Generators:

| | |
|---|---|
| Receive Date: | 20190321 |
| Handler Name: CERTIFIED TIRE-1621 | |
| Federal Waste Generator Description: | Not a generator, verified |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |

List of NAICS Codes and Descriptions:

| | |
|---|---|
| NAICS Code: | 811111 |
| NAICS Description: | GENERAL AUTOMOTIVE REPAIR |

Facility Has Received Notices of Violations:

| | |
|---|---|
| Violations: | No Violations Found |

Evaluation Action Summary:

| | |
|---|---|
| Evaluations: | No Evaluations Found |

**I29** **MARK C BLOOM** **SWEEPS UST** **S100939581**
**NW** **1820 W RAMSEY ST** **N/A**
**1/8-1/4** **BANNING, CA 92220**
**0.239 mi.**
**1261 ft.** **Site 3 of 4 in cluster I**

**Relative:** SWEEPS UST:
**Higher**

**Actual:**
**2430 ft.**

| | |
|---|---|
| Name: | MARK C BLOOM |
| Address: | 1820 W RAMSEY ST |
| City: | BANNING |
| Status: | Active |
| Comp Number: | 31189 |
| Number: | 1 |
| Board Of Equalization: | 44-018142 |
| Referral Date: | 06-06-90 |
| Action Date: | 06-06-90 |
| Created Date: | 03-16-89 |
| Owner Tank Id: | 000688 |
| SWRCB Tank Id: | 33-000-031189-000001 |
| Tank Status: | A |
| Capacity: | 550 |
| Active Date: | 06-06-90 |
| Tank Use: | UNKNOWN |
| STG: | W |
| Content: | UNKNOWN CONT |
| Number Of Tanks: | 1 |

---

**I30** **CERTIFIED TIRE & SERVICE CENTERS** **RCRA NonGen / NLR** **1024804822**
**NW** **1820 W. RAMSEY ST.** **CAL000260266**
**1/8-1/4** **BANNING, CA 92220**
**0.239 mi.**
**1261 ft.** **Site 4 of 4 in cluster I**

**Relative:** RCRA NonGen / NLR:
**Higher**

**Actual:**
**2430 ft.**

| | |
|---|---|
| Date Form Received by Agency: | 20180726 |
| Handler Name: | CERTIFIED TIRE & SERVICE CENTERS |
| Handler Address: | 1820 W. RAMSEY ST. |
| Handler City,State,Zip: | BANNING, CA 92220 |
| EPA ID: | CAL000260266 |
| Contact Name: | JEREMY DARROW |
| Contact Address: | IOWA AVE |
| Contact City,State,Zip: | RIVERSIDE, CA 92507 |
| Contact Telephone: | 951-369-0025 |
| Contact Fax: | 951-369-0690 |
| Contact Email: | JAD@CERTIFIEDTIRE.COM |
| Contact Title: | SUPERVISOR |
| EPA Region: | 09 |
| Land Type: | Private |
| Federal Waste Generator Description: | Not a generator, verified |
| Mailing Address: | IOWA AVE |
| Mailing City,State,Zip: | RIVERSIDE, CA 92507 |
| Owner Name: | CERTIFIED TIRE & SERVICE CENTERS |
| Owner Type: | Private |
| Operator Name: | CERTIFIED TIRE & SERVICE CENTERS |
| Operator Type: | Private |
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |

**CERTIFIED TIRE & SERVICE CENTERS (Continued)** **1024804822**

| | |
|---|---|
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | No |
| Universal Waste Destination Facility: | No |
| Federal Universal Waste: | No |
| Active Site State-Reg Handler: | --- |
| Hazardous Secondary Material Indicator: | NN |
| Commercial TSD Indicator: | No |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Handler Date of Last Change: | 20180726 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: CERTIFIED TIRE & SERVICE CENTERS | |
| Legal Status: | Private |
| Owner/Operator Address: | 1875 IOWA AVE |
| Owner/Operator City,State,Zip: | RIVERSIDE, CA 92507 |
| Owner/Operator Telephone: | 951-369-0025 |
| Owner/Operator Fax: | 951-369-0690 |
| Owner/Operator Email: | MSCHOOF@CERTIFIEDTIRE.COM |

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: CERTIFIED TIRE & SERVICE CENTERS | |
| Legal Status: | Private |
| Owner/Operator Address: | 1875 IOWA AVE |
| Owner/Operator City,State,Zip: | RIVERSIDE, CA 92507 |
| Owner/Operator Telephone: | 951-369-0025 |
| Owner/Operator Fax: | 951-369-0690 |
| Owner/Operator Email: | MSCHOOF@CERTIFIEDTIRE.COM |

**CERTIFIED TIRE & SERVICE CENTERS (Continued)** **1024804822**

Historic Generators:
Receive Date: 20180726
Handler Name: CERTIFIED TIRE & SERVICE CENTERS
Federal Waste Generator Description: Not a generator, verified
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 811111
NAICS Description: GENERAL AUTOMOTIVE REPAIR

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

---

**F31** **G & M OIL CO INC #20** **LUST** **S104402579**
**ENE** **827 RAMSEY STREET W** **Cortese** **N/A**
**1/8-1/4** **BANNING, CA 92220** **HIST CORTESE**
**0.249 mi.** **CERS**
**1314 ft.** **Site 4 of 4 in cluster F**

**Relative:** **Lower**
**Actual:** **2380 ft.**

LUST:
Name: G & M OIL CO INC #20
Address: 827 RAMSEY STREET W
City,State,Zip: BANNING, CA 92220
Lead Agency: RIVERSIDE COUNTY LOP
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606500733
Global Id: T0606500733
Latitude: 33.925670306
Longitude: -116.8856836
Status: Completed - Case Closed
Status Date: 06/15/2007
RB Case Number: 7T2220020
File Location: Local Agency
Local Case Number: 9915034
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline

LUST:
Global Id: T0606500733
Contact Type: Regional Board Caseworker
Contact Name: Phan Le
Organization Name: COLORADO RIVER BASIN RWQCB (REGION 7)
Address: 73720 FRED WARING DRIVE SUITE #100
City: PALM DESERT
Email: phan.le@waterboards.ca.gov

**G & M OIL CO INC #20 (Continued)** **S104402579**

Phone Number: 7607768974

LUST:

Global Id: T0606500733
Action Type: ENFORCEMENT
Date: 02/23/2006
Action: File review

Global Id: T0606500733
Action Type: Other
Date: 03/22/1999
Action: Leak Reported

Global Id: T0606500733
Action Type: REMEDIATION
Date: 07/08/2004
Action: Soil Vapor Extraction (SVE)

Global Id: T0606500733
Action Type: ENFORCEMENT
Date: 01/24/2006
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500733
Action Type: ENFORCEMENT
Date: 02/09/2006
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500733
Action Type: ENFORCEMENT
Date: 06/15/2007
Action: Closure/No Further Action Letter

Global Id: T0606500733
Action Type: ENFORCEMENT
Date: 09/25/2006
Action: Staff Letter - #092506

Global Id: T0606500733
Action Type: Other
Date: 12/03/1998
Action: Leak Stopped

Global Id: T0606500733
Action Type: ENFORCEMENT
Date: 02/28/2006
Action: File review

Global Id: T0606500733
Action Type: ENFORCEMENT
Date: 03/01/2006
Action: File review

Global Id: T0606500733
Action Type: ENFORCEMENT
Date: 04/27/2006
Action: File review

**G & M OIL CO INC #20 (Continued)** **S104402579**

Global Id: T0606500733
Action Type: ENFORCEMENT
Date: 06/14/2007
Action: File review - #RCDEH Upload Site File 2/8/2011

Global Id: T0606500733
Action Type: Other
Date: 03/22/1999
Action: Leak Discovery

Global Id: T0606500733
Action Type: RESPONSE
Date: 11/25/2006
Action: Unknown

LUST:
Global Id: T0606500733
Status: Open - Case Begin Date
Status Date: 12/03/1998

Global Id: T0606500733
Status: Open - Site Assessment
Status Date: 03/22/1999

Global Id: T0606500733
Status: Open - Site Assessment
Status Date: 04/23/1999

Global Id: T0606500733
Status: Open - Remediation
Status Date: 07/08/2004

Global Id: T0606500733
Status: Open - Verification Monitoring
Status Date: 12/20/2005

Global Id: T0606500733
Status: Completed - Case Closed
Status Date: 06/15/2007

LUST REG 7:
Region: 7
Status: 5C - Pollution Characterization
Case Num: 7T2220020
Substance: Gasoline - Automotive
ID: 786
Global ID: T0606500733
Lead Agency: Local Agency
Case Worker: YO

CORTESE:
Name: G & M OIL CO INC #20
Address: 827 RAMSEY STREET W
City,State,Zip: BANNING, CA 92220
Region: CORTESE

**G & M OIL CO INC #20 (Continued)** **S104402579**

Global ID: T0606500733
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Flag: active
File Name: Active Open

HIST CORTESE:
edr_fname: G & M OIL #20
edr_fadd1: 827 RAMSEY
City,State,Zip: BANNING, CA
Region: CORTESE
Facility County Code: 33
Reg By: LTNKA
Reg Id: 7T2220020

CERS:
Name: G & M OIL CO INC #20
Address: 827 RAMSEY STREET W
City,State,Zip: BANNING, CA 92220
Site ID: 225021
CERS ID: T0606500733
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Regional Board Caseworker
Entity Name: Phan Le - COLORADO RIVER BASIN RWQCB (REGION 7)
Affiliation Address: 73720 FRED WARING DRIVE SUITE #100
Affiliation City: PALM DESERT
Affiliation State: CA
Affiliation Phone: 7607768974,

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**32** **G&M OIL CO. #20** **LUST** **S103965376**
**ENE** **827 W RAMSEY ST** **CERS HAZ WASTE** **N/A**
**1/4-1/2** **BANNING, CA 92220** **CERS TANKS**
**0.257 mi.** **CERS**
**1357 ft.**

**Relative: Lower**

**Actual: 2382 ft.**

RIVERSIDE CO. LUST:
Name: G & M OIL CO INC #20
Address: 827 W RAMSEY ST
City,State,Zip: BANNING, CA
Region: RIVERSIDE
Facility ID: 9915034
Employee: Shurlow-LOP
Site Closed: Yes
Case Type: Soil only
Facility Status: closed/action completed
Casetype Decode: Soil only is impacted
Fstatus Decode: Closed/Action completed

CERS HAZ WASTE:
Name: G&M OIL CO. #20
Address: 827 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 118540
CERS ID: 10138205

**G&M OIL CO. #20 (Continued)** **S103965376**

CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: G&M OIL CO. #20
Address: 827 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 118540
CERS ID: 10138205
CERS Description: Underground Storage Tank

CERS:
Name: G&M OIL CO. #20
Address: 827 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 118540
CERS ID: 10138205
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 118540
Site Name: G&M Oil Co. #20
Violation Date: 02-15-2019
Citation: HSC 6.7 25284, 25286 - California Health and Safety Code, Chapter 6.7, Section(s) 25284, 25286
Violation Description: Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.
Violation Notes: Returned to compliance on 08/07/2019. OBSERVATION: Observed UST Monitoring Plan submitted in CERS to be inaccurate and/or missing information. . CORRECTIVE ACTION: Owner/operator shall make the corrections noted above to the UST Monitoring Plan as is detailed in a message sent via CERS on 11/9/2018
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Violation Date: 02-15-2019
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Description: Failure to have an approved UST Monitoring Plan.
Violation Notes: Returned to compliance on 08/07/2019. OBSERVATION: A Monitoring Plan has not been submitted in CERS, rather the response plan was uploaded into this field. CORRECTIVE ACTION: Owner/operator shall submit a complete UST Monitoring Plans in CERS.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Violation Date: 01-06-2014
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Description: Business Plan Program - Operations/Maintenance - General
Violation Notes: Returned to compliance on 01/06/2014. [LOCAL ORDINANCE VIOLATION 105A] Hazardous materials are stored in a manner to minimize the possibility

**G&M OIL CO. #20 (Continued)** **S103965376**

of a fire, explosion, or release.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Violation Date: 02-15-2019
Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description: Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.
Violation Notes: Returned to compliance on 08/07/2019. OBSERVATION: Observed installed overfill equipment that doesn't meet current requirements. A detailed report was delivered to this facility on 11/29/18 requiring corrective actions be completed within 30 days. This violation will NOT be upgraded at this time to a Class I violation; however, if corrective actions are not completed within 14 days of this report, enforcement action may be taken against the owner/operator. CORRECTIVE ACTION: Owner/operator shall ensure that overfill requirements are being met by adjusting/replacing overfill equipment. Any adjustment or replacement of overfill equipment may require a plan check.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Violation Date: 11-29-2018
Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description: Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow

**G&M OIL CO. #20 (Continued)** **S103965376**

to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.

Violation Notes: Returned to compliance on 08/07/2019.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Violation Date: 03-19-2019
Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description: Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.
Violation Notes: Returned to compliance on 08/07/2019.
Violation Division: Riverside County Department of Env Health
Violation Program: UST

**G&M OIL CO. #20 (Continued)** **S103965376**

| | |
|---|---|
| Violation Source: | CERS, |
| Site ID: | 118540 |
| Site Name: | G&M Oil Co. #20 |
| Violation Date: | 01-27-2016 |
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |
| Violation Notes: | Returned to compliance on 02/17/2016. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| Site ID: | 118540 |
| Site Name: | G&M Oil Co. #20 |
| Violation Date: | 11-17-2021 |
| Citation: | 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G) |
| Violation Description: | Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
| Site ID: | 118540 |
| Site Name: | G&M Oil Co. #20 |
| Violation Date: | 04-12-2019 |
| Citation: | Un-Specified |
| Violation Description: | Business Plan Program - Operations/Maintenance - General Local Ordinance |
| Violation Notes: | Returned to compliance on 08/07/2019. OBSERVATION: Required NFPA-704 signs were not posted. CORRECTIVE ACTION: Owner/operator shall |

**G&M OIL CO. #20 (Continued)** **S103965376**

| | |
|---|---|
| | research chemical safety data sheets and post proper NFPA-704 signs. Signs shall be posted at entrance of facility. Photos can be submitted to this department. E-mail: rsgarcia@rivco.org / Fax: 951-791-1778 |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 118540 |
| Site Name: | G&M Oil Co. #20 |
| Violation Date: | 01-31-2017 |
| Citation: | 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665 |
| Violation Description: | Failure to comply with one or more of the following: Failure to install or maintain a liquid-tight spill bucket. Have a minimum capacity of five gallons. Have a functional drain valve or other method for the removal of liquid from the spill bucket/spill container. Be resistant to galvanic corrosion. |
| Violation Notes: | Returned to compliance on 01/31/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
| | |
| Site ID: | 118540 |
| Site Name: | G&M Oil Co. #20 |
| Violation Date: | 02-22-2022 |
| Citation: | HSC 6.95 25508.1(a)-(f) - California Health and Safety Code, Chapter 6.95, Section(s) 25508.1(a)-(f) |
| Violation Description: | Failure to electronically update business plan within 30 days of any one of the following events: A 100 percent or more increase in the quantity of a previously disclosed material. Any handling of a previously undisclosed hazardous materials at or above reportable quantities. A change of business address, business ownership, or business name. A substantial change in the handler's operations that requires modification to any portion of the business plan. |
| Violation Notes: | OBSERVATION: The hazardous material inventory for Carbon Dioxide was not updated within 30 days after a 100% or more increase in the quantity stored on site. At the time of inspection, observed a bulk liquid CO2 tank which is not being reported in CERS. CORRECTIVE ACTION: Owner/operator shall confirm the quantity of CO2 in the bulk CO2 tank and update/ submit a new hazardous material inventory page for each chemical stored on site at or above threshold quantities. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 118540 |
| Site Name: | G&M Oil Co. #20 |
| Violation Date: | 01-27-2016 |
| Citation: | 23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1) |
| Violation Description: | Failure of the double wall pressurized piping in the under dispenser containment to be continuously monitored by a method that either shuts down the flow of product to the dispenser or activates an audible/visual alarm when a leak is detected. |
| Violation Notes: | Returned to compliance on 01/27/2016. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |

**G&M OIL CO. #20 (Continued)** **S103965376**

Violation Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Violation Date: 01-16-2015
Citation: 23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description: Failure of the double wall pressurized piping in the under dispenser containment to be continuously monitored by a method that either shuts down the flow of product to the dispenser or activates an audible/visual alarm when a leak is detected.
Violation Notes: Returned to compliance on 01/16/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Violation Date: 01-31-2017
Citation: 23 CCR 6.7 25284, 25286 - California Code of Regulations, Title 23, Chapter 6.7, Section(s) 25284, 25286
Violation Description: Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.
Violation Notes: Returned to compliance on 03/14/2017.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Violation Date: 02-08-2018
Citation: HSC 6.7 25284, 25286 - California Health and Safety Code, Chapter 6.7, Section(s) 25284, 25286
Violation Description: Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.
Violation Notes: Returned to compliance on 05/01/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Violation Date: 02-15-2019
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)
Violation Description: Failure to have current UST Monitoring Plan available on site.
Violation Notes: Returned to compliance on 08/07/2019. OBSERVATION: No UST Monitoring Plan available on site during inspection. CORRECTIVE ACTION: Owner/operator shall maintain a current UST Monitoring Plan on site that has been accepted in CERS and make available for review.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-06-2014

**G&M OIL CO. #20 (Continued)** **S103965376**

| | |
|---|---|
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | No violations |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 01-27-2016 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-22-2022 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Facility is a gas station. Hazardous materials on site include Bio-Diesel, E-85, Regular and Premium Gasoline, and CO2. |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 03-19-2019 |
| Violations Found: | Yes |
| Eval Type: | Other, not routine, done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 03-28-2019 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | Drop off Overfill report |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 11-17-2021 |
| Violations Found: | Yes |
| Eval Type: | Other, not routine, done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 11-29-2018 |
| Violations Found: | Yes |
| Eval Type: | Other, not routine, done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |

**G&M OIL CO. #20 (Continued)** **S103965376**

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 01-06-2014 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | 1 violation corrected at time of inspection |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-20-2020 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | ** Last SB989 testing done 08/2017. ** |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-24-2021 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | ** Observed dispenser 1/2 containing liquid. Several monthly DO inspection reports stating the same; all supporting documentation of appropriate actions taken were available on-site. ** |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 08-07-2019 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | Found a complete submittal from combined collection of past submittals. Facility shall ensure complete and accurate Hazardous Materials Business Plan [HMBP] with all components is available to personnel. |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 09-05-2017 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | SB989 repair notification |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 10-17-2014 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | Wrote SB989 NOV |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |

**G&M OIL CO. #20 (Continued)** **S103965376**

Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-16-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: CMD
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-27-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-08-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-12-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 08-07-2019
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Signage provided while on site.
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-06-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: No violations
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-27-2016
Violations Found: Yes
Eval Type: Routine done by local agency

**G&M OIL CO. #20 (Continued)** **S103965376**

| | |
|---|---|
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 01-31-2017 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | CMD |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-15-2019 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-22-2022 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Facility is a gas station generating spent absorbent, fuel filters, and UST test water. |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-22-2022 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Om site with William Coulter of Tank Tek for the facility’s annual monitoring certification. At the time of inspection it was verified that facility has singled walled vent and vapor piping. |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 04-12-2019 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 10-21-2014 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | Delivered SB989 NOV |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |

**G&M OIL CO. #20 (Continued)** **S103965376**

Eval Source: CERS,

Enforcement Action:
Site ID: 118540
Site Name: G&M Oil Co. #20
Site Address: 827 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 01-06-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HMRRP
Enf Action Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Site Address: 827 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 01-16-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Site Address: 827 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 01-27-2016
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HMRRP
Enf Action Source: CERS,

Site ID: 118540
Site Name: G&M Oil Co. #20
Site Address: 827 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 01-27-2016
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS,

Coordinates:
Site ID: 118540
Facility Name: G&M Oil Co. #20
Env Int Type Code: HWG
Program ID: 10138205

**G&M OIL CO. #20 (Continued)** **S103965376**

Ref Point Type Desc: Center of a facility or station.,
Latitude: 33.925700
Longitude: -116.885730

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: HORTENSIA NAVARRO
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: HORTENSIA NAVARRO for G&M OIL CO.
Entity Title: COMPLIANCE ASSISTANT/CERS SPECIALIST
Affiliation Phone: ,

Affiliation Type Desc: UST Permit Applicant
Entity Name: SOLEDAD GERMAN
Entity Title: COMPLIANCE ADMINISTRATOR
Affiliation Phone: (714) 475-6375,

Affiliation Type Desc: UST Tank Owner
Entity Name: G&M OIL CO LLC
Affiliation Address: 16868 A LANE
Affiliation City: HUNTINGTON BEACH
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92647
Affiliation Phone: (714) 375-4700,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Affiliation Address: 16868 A LANE
Affiliation City: HUNTINGTON BEACH
Affiliation State: CA
Affiliation Zip: 92647
Affiliation Phone: ,

Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055,

Affiliation Type Desc: Legal Owner
Entity Name: G&M OIL CO LLC
Affiliation Address: 16868 A LANE
Affiliation City: HUNTINGTON BEACH
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92647
Affiliation Phone: (714) 375-4700,

Affiliation Type Desc: Parent Corporation
Entity Name: G&M OIL CO.
Affiliation Phone: ,

**G&M OIL CO. #20 (Continued)** **S103965376**

| | |
|---|---|
| Affiliation Type Desc: | UST Property Owner Name |
| Entity Name: | G&M GAPCO, LLC |
| Affiliation Address: | 16868 A LANE |
| Affiliation City: | HUNTINGTON BEACH |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92647 |
| Affiliation Phone: | (714) 375-4700, |
| | |
| Affiliation Type Desc: | UST Tank Operator |
| Entity Name: | G&M OIL CO LLC |
| Affiliation Address: | 16868 A LANE |
| Affiliation City: | HUNTINGTON BEACH |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92647 |
| Affiliation Phone: | (714) 375-4700, |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | MICHAEL GRAY |
| Affiliation Address: | 16868 A LANE |
| Affiliation City: | HUNTINGTON BEACH |
| Affiliation State: | CA |
| Affiliation Zip: | 92647 |
| Affiliation Phone: | , |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | G&M OIL CO LLC |
| Affiliation Phone: | (714) 375-4700, |

---

**33**
**ENE**
**1/4-1/2**
**0.281 mi.**
**1486 ft.**

**BANNING GAS AND LIGHT CO** **EDR MGP** **1008407657**
**WEST OF BRYANT STREET** **N/A**
**BANNING, CA 92220**

**Relative:**
**Lower**

**Actual:**
**2358 ft.**

Manufactured Gas Plants:
No additional information available

---

**J34**
**WNW**
**1/4-1/2**
**0.353 mi.**
**1862 ft.**

**N.B. PATEL** **LUST** **U001573544**
**1979 W RAMSEY ST** **HIST UST** **N/A**
**BANNING, CA 92220** **Cortese**
**CERS**

**Site 1 of 2 in cluster J**

**Relative:**
**Higher**

**Actual:**
**2439 ft.**

LUST:

| | |
|---|---|
| Name: | FORMER USA GAS |
| Address: | 1979 W RAMSEY STREET |
| City,State,Zip: | BANNING, CA 92220 |
| Lead Agency: | COLORADO RIVER BASIN RWQCB (REGION 7) |
| Case Type: | LUST Cleanup Site |
| Geo Track: | http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606537906 |
| Global Id: | T0606537906 |

**N.B. PATEL (Continued)** **U001573544**

Latitude: 33.9257697240964
Longitude: -116.898501482935
Status: Open - Inactive
Status Date: 12/21/2018
Case Worker: PL
RB Case Number: 7t2220030
File Location: Local Agency
Local Case Number: 200521233
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: 4 tanks removed from site January 14, 2005, 1-280 gallon w/o, 2 10K gasoline and 1 8K gasoline. Soil samples from piping and dispensers and tanks 1 and 2 were clean. Tank 3 had 12 ppm TPHg at 2 and 3400 ppm at 4 below the east end of the tank.

LUST:
Global Id: T0606537906
Contact Type: Regional Board Caseworker
Contact Name: Phan Le
Organization Name: COLORADO RIVER BASIN RWQCB (REGION 7)
Address: 73720 FRED WARING DRIVE SUITE #100
City: PALM DESERT
Email: phan.le@waterboards.ca.gov
Phone Number: 7607768974

LUST:
Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 05/28/2013
Action: Staff Letter - #RCDEH 052813

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 01/13/2020
Action: Health and Safety Code Section 25296.10(c)

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 03/03/2020
Action: File review

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 11/21/2019
Action: Health and Safety Code Section 25296.10(c)

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 06/25/2019
Action: File review

Global Id: T0606537906
Action Type: Other
Date: 02/07/2005
Action: Leak Reported

Global Id: T0606537906

**N.B. PATEL (Continued)** **U001573544**

Action Type: ENFORCEMENT
Date: 08/05/2009
Action: Staff Letter - #Riv Co 080509

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 12/18/2015
Action: Staff Letter - #RCDEH 121815

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 12/15/2016
Action: File review - #RCDEH uploaded site files 030106

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 10/21/2019
Action: Health and Safety Code Section 25296.10(c)

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 11/18/2019
Action: Other Report

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 10/09/2020
Action: Health and Safety Code Section 25296.10(c)

Global Id: T0606537906
Action Type: RESPONSE
Date: 07/18/2013
Action: Preliminary Site Assessment Workplan - Regulator Responded

Global Id: T0606537906
Action Type: RESPONSE
Date: 02/18/2016
Action: Preliminary Site Assessment Workplan - Regulator Responded

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 09/20/2007
Action: Staff Letter

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 11/22/2005
Action: Staff Letter - #112205

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 12/04/2018
Action: File review

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 12/13/2013

**N.B. PATEL (Continued)** **U001573544**

Action: File review

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 07/01/2017
Action: Referral to Regional Board - #RCDEH notification letters

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 11/12/2019
Action: Other Report

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 04/08/2022
Action: Notice of Violation

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 11/01/2021
Action: File review

Global Id: T0606537906
Action Type: Other
Date: 01/14/2005
Action: Leak Stopped

Global Id: T0606537906
Action Type: RESPONSE
Date: 05/31/2012
Action: Preliminary Site Assessment Report

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 11/19/2008
Action: Staff Letter - #RCDEH111908

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 10/12/2020
Action: Other Report

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 12/14/2020
Action: Other Report

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 01/24/2006
Action: Technical Correspondence / Assistance / Other

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 06/22/2011
Action: Staff Letter - #RCDEH 062211

**N.B. PATEL (Continued)** **U001573544**

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 04/12/2012
Action: Staff Letter - #RCDEH 041212

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 07/01/2017
Action: File review - #RCDEH site summary

Global Id: T0606537906
Action Type: ENFORCEMENT
Date: 12/03/2019
Action: Other Report

Global Id: T0606537906
Action Type: Other
Date: 02/07/2005
Action: Leak Discovery

LUST:
Global Id: T0606537906
Status: Open - Case Begin Date
Status Date: 01/14/2005

Global Id: T0606537906
Status: Open - Site Assessment
Status Date: 02/07/2005

Global Id: T0606537906
Status: Open - Inactive
Status Date: 12/21/2018

RIVERSIDE CO. LUST:
Name: FORMER USA GAS
Address: 1979 W RAMSEY ST
City,State,Zip: BANNING, CA
Region: RIVERSIDE
Facility ID: 200521233
Employee: Shurlow-LOP
Site Closed: Referred to Water Board
Case Type: Soil only
Facility Status: closed/action completed
Casetype Decode: Soil only is impacted
Fstatus Decode: Closed/Action completed

HIST UST:
Name: N.B. PATEL
Address: 1979 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Region: STATE
Facility ID: 00000040947
Facility Type: Gas Station
Contact Name: SMITH OIL COPANY
Telephone: 7148495817

**N.B. PATEL (Continued)** **U001573544**

| | |
|---|---|
| Owner Name: | DINESH P. PATEL & DINESH A. PA |
| Owner Address: | 892 WEST "G" ST. |
| Owner City,St,Zip: | COLTON, CA 92324 |
| Total Tanks: | 0003 |
| Tank Num: | 001 |
| Container Num: | 1 |
| Tank Capacity: | 00010000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | UNLEADED |
| Leak Detection: | Pressure Test |
| Tank Num: | 002 |
| Container Num: | 2 |
| Tank Capacity: | 00010000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | UNLEADED |
| Container Construction Thickness: | 4 |
| Leak Detection: | Pressure Test |
| Tank Num: | 003 |
| Container Num: | 3 |
| Tank Capacity: | 00008000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | PREMIUM |
| Container Construction Thickness: | 4 |
| Leak Detection: | Pressure Test |

CORTESE:

| | |
|---|---|
| Name: | FORMER USA GAS |
| Address: | 1979 W RAMSEY STREET |
| City,State,Zip: | BANNING, CA 92220 |
| Region: | CORTESE |
| Global ID: | T0606537906 |
| Site/Facility Type: | LUST CLEANUP SITE |
| Cleanup Status: | OPEN - INACTIVE |
| Flag: | active |
| File Name: | Active Open |

CERS:

| | |
|---|---|
| Name: | FORMER USA GAS |
| Address: | 1979 W RAMSEY STREET |
| City,State,Zip: | BANNING, CA 92220 |
| Site ID: | 243211 |
| CERS ID: | T0606537906 |
| CERS Description: | Leaking Underground Storage Tank Cleanup Site |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Regional Board Caseworker |
| Entity Name: | Phan Le - COLORADO RIVER BASIN RWQCB (REGION 7) |
| Affiliation Address: | 73720 FRED WARING DRIVE SUITE #100 |
| Affiliation City: | PALM DESERT |
| Affiliation State: | CA |
| Affiliation Phone: | 7607768974, |

**J35** **CALTRANS-BANNING MAINTENA** **HIST CORTESE** **S105022669**
**WNW** **2033 RAMSEY** **N/A**
**1/4-1/2** **BANNING, CA 92220**
**0.370 mi.**
**1955 ft.** **Site 2 of 2 in cluster J**

**Relative:** **Higher**

**Actual:** **2438 ft.**

HIST CORTESE:

| | |
|---|---|
| edr_fname: | CALTRANS-BANNING MAINTENA |
| edr_fadd1: | 2033 RAMSEY |
| City,State,Zip: | BANNING, CA 92220 |
| Region: | CORTESE |
| Facility County Code: | 33 |
| Reg By: | LTNKA |
| Reg Id: | 7T2220001 |

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**36** **BANNING HIGH SCHOOL EXPANSION** **ENVIROSTOR** **S116490711**
**SE** **SOUTH OF WEST WESTWARD AVE/WEST OF CURRENT BANNING HIGH SCHO** **SCH** **N/A**
**1/4-1/2** **BANNING, CA 92220**
**0.379 mi.**
**2001 ft.**

**Relative:** **Lower**

**Actual:** **2304 ft.**

ENVIROSTOR:

| | |
|---|---|
| Name: | BANNING HIGH SCHOOL EXPANSION |
| Address: | SOUTH OF WEST WESTWARD AVE/WEST OF CURRENT BANNING HIGH SCHOOL |
| City,State,Zip: | BANNING, CA 92220 |
| Facility ID: | 60001998 |
| Status: | No Further Action |
| Status Date: | 12/24/2015 |
| Site Code: | 404898 |
| Site Type: | School Investigation |
| Site Type Detailed: | School |
| Acres: | 9.06 |
| NPL: | NO |
| Regulatory Agencies: | HWMP |
| Lead Agency: | HWMP |
| Program Manager: | Aslam Shareef |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Assembly: | 42 |
| Senate: | 23 |
| Special Program: | Voluntary Agreement - Standard Voluntary Agreement |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | School District |
| Latitude: | 33.91776 |
| Longitude: | -116.8846 |
| APN: | 543-030-001, 543030001 |
| Past Use: | AGRICULTURAL - ORCHARD, RESIDENTIAL AREA |
| Potential COC: | Under Investigation |
| Confirmed COC: | Under Investigation |
| Potential Description: | SOIL, SV |
| Alias Name: | 543-030-001 |
| Alias Type: | APN |
| Alias Name: | 543030001 |
| Alias Type: | APN |
| Alias Name: | 404898 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 60001998 |
| Alias Type: | Envirostor ID Number |

**BANNING HIGH SCHOOL EXPANSION (Continued)** **S116490711**

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Preliminary Endangerment Assessment Tech Memo |
| Completed Date: | 08/26/2014 |
| Comments: | DTSC approved the TM provided DTSC comments are addressed during the field/in future reports |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Cost Recovery Closeout Memo |
| Completed Date: | 09/12/2017 |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Environmental Oversight Agreement |
| Completed Date: | 06/09/2014 |
| Comments: | Final signed and fully executed copy mailed out on 6/9/2014 |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Preliminary Endangerment Assessment Report |
| Completed Date: | 12/24/2015 |
| Comments: | DTSC approved the PEA with a No Further Action determination |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Other Report |
| Completed Date: | 04/15/2014 |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Environmental Oversight Agreement Application |
| Completed Date: | 05/27/2014 |
| Comments: | Application accepted and EOA executed |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Annual Oversight Cost Estimate |
| Completed Date: | 09/21/2015 |
| Comments: | Annual Cost Estimate emailed and mailed to BP. |

SCH:

| | |
|---|---|
| Name: | BANNING HIGH SCHOOL EXPANSION |
| Address: | SOUTH OF WEST WESTWARD AVE/WEST OF CURRENT BANNING HIGH SCHOOL |
| City,State,Zip: | BANNING, CA 92220 |
| Facility ID: | 60001998 |
| Site Type: | School Investigation |
| Site Type Detail: | School |
| Site Mgmt. Req.: | NONE SPECIFIED |
| Acres: | 9.06 |
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | HWMP |
| Lead Agency: | HWMP |
| Lead Agency Description: | DTSC - Hazardous Waste Management Program |
| Project Manager: | Aslam Shareef |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Site Code: | 404898 |
| Assembly: | 42 |
| Senate: | 23 |

**BANNING HIGH SCHOOL EXPANSION (Continued)** **S116490711**

| | |
|---|---|
| Special Program Status: | Voluntary Agreement - Standard Voluntary Agreement |
| Status: | No Further Action |
| Status Date: | 12/24/2015 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 33.91776 |
| Longitude: | -116.8846 |
| APN: | 543-030-001, 543030001 |
| Past Use: | AGRICULTURAL - ORCHARD, RESIDENTIAL AREA |
| Potential COC: | Under Investigation |
| Confirmed COC: | Under Investigation |
| Potential Description: | SOIL, SV |
| Alias Name: | 543-030-001 |
| Alias Type: | APN |
| Alias Name: | 543030001 |
| Alias Type: | APN |
| Alias Name: | 404898 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 60001998 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Preliminary Endangerment Assessment Tech Memo |
| Completed Date: | 08/26/2014 |
| Comments: | DTSC approved the TM provided DTSC comments are addressed during the field/in future reports |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Cost Recovery Closeout Memo |
| Completed Date: | 09/12/2017 |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Environmental Oversight Agreement |
| Completed Date: | 06/09/2014 |
| Comments: | Final signed and fully executed copy mailed out on 6/9/2014 |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Preliminary Endangerment Assessment Report |
| Completed Date: | 12/24/2015 |
| Comments: | DTSC approved the PEA with a No Further Action determination |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Other Report |
| Completed Date: | 04/15/2014 |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Environmental Oversight Agreement Application |
| Completed Date: | 05/27/2014 |
| Comments: | Application accepted and EOA executed |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Annual Oversight Cost Estimate |
| Completed Date: | 09/21/2015 |
| Comments: | Annual Cost Estimate emailed and mailed to BP. |

**K37** **7-ELEVEN STORE #19299** **LUST** **S106152838**
**WNW** **2217 RAMSEY STREET** **N/A**
**1/4-1/2** **BANNING, CA**
**0.408 mi.**
**2153 ft.** **Site 1 of 7 in cluster K**

**Relative:**
**Higher**

**Actual:**
**2442 ft.**

LUST REG 7:

| | |
|---|---|
| Region: | 7 |
| Status: | 5C - Pollution Characterization |
| Case Num: | 7T2220012 |
| Substance: | Gasoline - Automotive |
| ID: | 393 |
| Global ID: | T0606500726 |
| Lead Agency: | Local Agency |
| Case Worker: | YO |

---

**K38** **SOUTHLAND STORE - 19299** **LUST** **S104970818**
**WNW** **2217 RAMSEY** **Cortese** **N/A**
**1/4-1/2** **BANNING, CA 92220** **HIST CORTESE**
**0.408 mi.** **CERS**
**2153 ft.** **Site 2 of 7 in cluster K**

**Relative:**
**Higher**

**Actual:**
**2442 ft.**

LUST:

| | |
|---|---|
| Name: | SOUTHLAND #19299 |
| Address: | 2217 RAMSEY STREET |
| City,State,Zip: | BANNING, CA 92220 |
| Lead Agency: | RIVERSIDE COUNTY LOP |
| Case Type: | LUST Cleanup Site |
| Geo Track: | http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606500726 |
| Global Id: | T0606500726 |
| Latitude: | 33.925998 |
| Longitude: | -116.901125 |
| Status: | Completed - Case Closed |
| Status Date: | 04/29/2005 |
| Case Worker: | RIV |
| RB Case Number: | 7T2220012 |
| Local Agency: | RIVERSIDE COUNTY LOP |
| Local Case Number: | 93835 |
| Potential Media Affect: | Soil |
| Potential Contaminants of Concern: | Gasoline |

LUST:

| | |
|---|---|
| Global Id: | T0606500726 |
| Contact Type: | Regional Board Caseworker |
| Contact Name: | Phan Le |
| Organization Name: | COLORADO RIVER BASIN RWQCB (REGION 7) |
| Address: | 73720 FRED WARING DRIVE SUITE #100 |
| City: | PALM DESERT |
| Email: | phan.le@waterboards.ca.gov |
| Phone Number: | 7607768974 |

| | |
|---|---|
| Global Id: | T0606500726 |
| Contact Type: | Local Agency Caseworker |
| Contact Name: | Riverside County LOP |
| Organization Name: | RIVERSIDE COUNTY LOP |
| Address: | 3880 LEMON ST SUITE 200 |
| City: | RIVERSIDE |
| Phone Number: | 9519558980 |

**SOUTHLAND STORE - 19299 (Continued)** **S104970818**

LUST:
Global Id: T0606500726
Action Type: ENFORCEMENT
Date: 11/24/2003
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500726
Action Type: Other
Date: 09/07/1993
Action: Leak Reported

Global Id: T0606500726
Action Type: ENFORCEMENT
Date: 04/03/2003
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500726
Action Type: Other
Date: 08/18/1993
Action: Leak Stopped

Global Id: T0606500726
Action Type: Other
Date: 08/18/1993
Action: Leak Discovery

LUST:
Global Id: T0606500726
Status: Open - Case Begin Date
Status Date: 08/18/1993

Global Id: T0606500726
Status: Open - Site Assessment
Status Date: 09/15/1993

Global Id: T0606500726
Status: Open - Site Assessment
Status Date: 04/01/1998

Global Id: T0606500726
Status: Open - Site Assessment
Status Date: 08/01/1998

Global Id: T0606500726
Status: Open - Site Assessment
Status Date: 06/05/2000

Global Id: T0606500726
Status: Completed - Case Closed
Status Date: 04/29/2005

RIVERSIDE CO. LUST:
Name: SOUTHLAND #19299
Address: 2217 RAMSEY ST
City,State,Zip: BANNING, CA

**SOUTHLAND STORE - 19299 (Continued)** **S104970818**

Region: RIVERSIDE
Facility ID: 93835
Employee: Shurlow-LOP
Site Closed: Yes
Case Type: Soil only
Facility Status: closed/action completed
Casetype Decode: Soil only is impacted
Fstatus Decode: Closed/Action completed

CORTESE:
Name: SOUTHLAND #19299
Address: 2217 RAMSEY STREET
City,State,Zip: BANNING, CA 92220
Region: CORTESE
Global ID: T0606500726
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Flag: active
File Name: Active Open

HIST CORTESE:
edr_fname: SOUTHLAND STORE - 19299
edr_fadd1: 2217 RAMSEY
City,State,Zip: BANNING, CA 92220
Region: CORTESE
Facility County Code: 33
Reg By: LTNKA
Reg Id: 7T2220012

CERS:
Name: SOUTHLAND #19299
Address: 2217 RAMSEY STREET
City,State,Zip: BANNING, CA 92220
Site ID: 260731
CERS ID: T0606500726
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: Riverside County LOP - RIVERSIDE COUNTY LOP
Affiliation Address: 3880 LEMON ST SUITE 200
Affiliation City: RIVERSIDE
Affiliation State: CA
Affiliation Phone: 9519558980,

Affiliation Type Desc: Regional Board Caseworker
Entity Name: Phan Le - COLORADO RIVER BASIN RWQCB (REGION 7)
Affiliation Address: 73720 FRED WARING DRIVE SUITE #100
Affiliation City: PALM DESERT
Affiliation State: CA
Affiliation Phone: 7607768974,

**39**
**ESE**
**1/4-1/2**
**0.423 mi.**
**2233 ft.**

**BANNING USD PROPOSED SCHOOL - PARCELS 3, 4, 18 AND**
**654 WEST WESTWARD AVENUE (PARCEL 18 ONLY)**
**BANNING, CA 92220**

**ENVIROSTOR SCH** | **S120714358** | **N/A**

**Relative:**
**Lower**

**Actual:**
**2298 ft.**

ENVIROSTOR:

| | |
|---|---|
| Name: | BANNING USD PROPOSED SCHOOL - PARCELS 3, 4, 18 AND 19 |
| Address: | 654 WEST WESTWARD AVENUE (PARCEL 18 ONLY) |
| City,State,Zip: | BANNING, CA 92220 |
| Facility ID: | 60002517 |
| Status: | No Further Action |
| Status Date: | 10/22/2018 |
| Site Code: | 404942 |
| Site Type: | School Investigation |
| Site Type Detailed: | School |
| Acres: | 18.3 |
| NPL: | NO |
| Regulatory Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Program Manager: | Johnson Abraham |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Assembly: | , 42 |
| Senate: | , 23 |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | School District |
| Latitude: | 33.91668 |
| Longitude: | -116.8834 |
| APN: | NONE SPECIFIED |
| Past Use: | AGRICULTURAL - ORCHARD, FUEL - VEHICLE STORAGE/ REFUELING, PESTICIDE/INSECTIDE/RODENTICIDE STORAGE, UNDERGROUND STORAGE TANKS, UTILITY - ELECTRIC |
| Potential COC: | NONE SPECIFIED No Contaminants found |
| Confirmed COC: | NONE SPECIFIED |
| Potential Description: | NMA |
| Alias Name: | 404942 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 60002517 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Other Report |
| Completed Date: | 06/23/2017 |
| Comments: | Phase I ESA Reports: 2 reports--one for Parcels 3, 4 & 19 and one for Parcel 19. |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Fieldwork |
| Completed Date: | 10/20/2017 |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Environmental Oversight Agreement Application |
| Completed Date: | 06/22/2017 |
| Comments: | District submitted EOP Application via email on 6/22/17; hard copy on the way. |
| Completed Area Name: | PROJECT WIDE |

**BANNING USD PROPOSED SCHOOL - PARCELS 3, 4, 18 AND 19 (Continued)** **S120714358**

Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 11/05/2018

Completed Area Name: PROJECT WIDE
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 09/07/2017
Comments: DTSC conditionally approved the Tech Memo.

Completed Area Name: PROJECT WIDE
Completed Document Type: Environmental Oversight Agreement
Completed Date: 07/24/2017
Comments: Shahir signed for Peter; fully executed EOA sent to District 07/24/17 via regular mail.

Completed Area Name: PROJECT WIDE
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 09/18/2018
Comments: FY 1819 Estimate: $2,439

SCH:

Name: BANNING USD PROPOSED SCHOOL - PARCELS 3, 4, 18 AND 19
Address: 654 WEST WESTWARD AVENUE (PARCEL 18 ONLY)
City,State,Zip: BANNING, CA 92220
Facility ID: 60002517
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 18.3
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Johnson Abraham
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Site Code: 404942
Assembly: , 42
Senate: , 23
Status: No Further Action
Status Date: 10/22/2018
Restricted Use: NO
Funding: School District
Latitude: 33.91668
Longitude: -116.8834
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ORCHARD, FUEL - VEHICLE STORAGE/ REFUELING, PESTICIDE/INSECTIDE/RODENTICIDE STORAGE, UNDERGROUND STORAGE TANKS, UTILITY - ELECTRIC
Potential COC: NONE SPECIFIED, No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: 404942
Alias Type: Project Code (Site Code)
Alias Name: 60002517
Alias Type: Envirostor ID Number

**BANNING USD PROPOSED SCHOOL - PARCELS 3, 4, 18 AND 19 (Continued)** **S120714358**

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Other Report |
| Completed Date: | 06/23/2017 |
| Comments: | Phase I ESA Reports: 2 reports--one for Parcels 3, 4 & 19 and one for Parcel 19. |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Fieldwork |
| Completed Date: | 10/20/2017 |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Environmental Oversight Agreement Application |
| Completed Date: | 06/22/2017 |
| Comments: | District submitted EOP Application via email on 6/22/17; hard copy on the way. |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Preliminary Endangerment Assessment Report |
| Completed Date: | 11/05/2018 |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Preliminary Endangerment Assessment Workplan |
| Completed Date: | 09/07/2017 |
| Comments: | DTSC conditionally approved the Tech Memo. |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Environmental Oversight Agreement |
| Completed Date: | 07/24/2017 |
| Comments: | Shahir signed for Peter; fully executed EOA sent to District 07/24/17 via regular mail. |
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Annual Oversight Cost Estimate |
| Completed Date: | 09/18/2018 |
| Comments: | FY 1819 Estimate: $2,439 |

---

**K40** **MOBIL STATION #18-HNY** **LUST** **S103978092**
**WNW** **2192 WEST RAMSEY STREET** **Cortese** **N/A**
**1/4-1/2** **BANNING, CA 92220**
**0.444 mi.**
**2343 ft.** **Site 3 of 7 in cluster K**

**Relative:**
**Higher**

**Actual:**
**2446 ft.**

LUST REG 7:

| | |
|---|---|
| Region: | 7 |
| Status: | 9 - Case Closed |
| Case Num: | 7T2220009 |
| Substance: | Gasoline - Automotive |
| ID: | 966 |
| Global ID: | T0606500723 |
| Lead Agency: | Local Agency |
| Case Worker: | RT |

CORTESE:

| | |
|---|---|
| Name: | MOBIL STATION #18-HNY |
| Address: | 2192 WEST RAMSEY STREET |

**MOBIL STATION #18-HNY (Continued)** **S103978092**

| | |
|---|---|
| City,State,Zip: | BANNING, CA 92220 |
| Region: | CORTESE |
| Global ID: | T0606500723 |
| Site/Facility Type: | LUST CLEANUP SITE |
| Cleanup Status: | COMPLETED - CASE CLOSED |
| Flag: | active |
| File Name: | Active Open |

---

**K41** **MOBIL STATION** **HIST CORTESE** **S105022670**
**WNW** **2192 RAMSEY** **N/A**
**1/4-1/2** **BANNING, CA 92220**
**0.444 mi.**
**2343 ft.** **Site 4 of 7 in cluster K**

**Relative:**
**Higher**

**Actual:**
**2446 ft.**

HIST CORTESE:

| | |
|---|---|
| edr_fname: | MOBIL STATION |
| edr_fadd1: | 2192 RAMSEY |
| City,State,Zip: | BANNING, CA 92220 |
| Region: | CORTESE |
| Facility County Code: | 33 |
| Reg By: | LTNKA |
| Reg Id: | 7T2220009 |

---

**K42** **BANNING FUEL INC DBA 22ND SHELL STATION** **LUST** **S103642448**
**WNW** **2192 W RAMSEY ST** **CERS HAZ WASTE** **N/A**
**1/4-1/2** **BANNING, CA 92220** **SWEEPS UST**
**0.444 mi.** **CERS TANKS**
**2343 ft.** **Site 5 of 7 in cluster K** **CHMIRS**
**Cortese**

**Relative:**
**Higher**

**HAZNET**
**CERS**

**Actual:**
**2446 ft.**

**HWTS**

LUST:

| | |
|---|---|
| Name: | MOBIL #18-HNY |
| Address: | 2192 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Lead Agency: | RIVERSIDE COUNTY LOP |
| Case Type: | LUST Cleanup Site |
| Geo Track: | http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606500734 |
| Global Id: | T0606500734 |
| Latitude: | 33.925168984 |
| Longitude: | -116.9006758 |
| Status: | Completed - Case Closed |
| Status Date: | 01/16/2009 |
| RB Case Number: | 7T2220021 |
| File Location: | Local Agency |
| Local Case Number: | 9914864 |
| Potential Media Affect: | Soil |
| Potential Contaminants of Concern: | Gasoline |

LUST:

| | |
|---|---|
| Global Id: | T0606500734 |
| Contact Type: | Regional Board Caseworker |
| Contact Name: | KAI DUNN |
| Organization Name: | COLORADO RIVER BASIN RWQCB (REGION 7) |
| Address: | 73-720 FRED WARING DR. STE 100 |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

City: PALM DESERT
Email: kai.dunn@waterboards.ca.gov

LUST:
Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 11/22/2002
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 12/27/2002
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 11/20/2002
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 09/30/2003
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 08/01/2005
Action: File review - #37622

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 04/13/2004
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 07/24/2003
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 11/24/2003
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 10/06/2003
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 03/23/2004
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 04/25/2003

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 11/06/2002
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: Other
Date: 01/20/1999
Action: Leak Reported

Global Id: T0606500734
Action Type: REMEDIATION
Date: 01/03/2003
Action: Soil Vapor Extraction (SVE)

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 10/22/2003
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 12/05/2007
Action: Staff Letter - #120507

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 01/15/2009
Action: Other Report - #UST Sample Analytical Report

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 07/13/2007
Action: File review

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 03/29/2006
Action: Technical Correspondence / Assistance / Other - #032906

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 04/04/2008
Action: File review

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 10/18/2007
Action: Staff Letter - #101807

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 03/20/2007
Action: File review

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Global Id: T0606500734
Action Type: Other
Date: 11/10/1998
Action: Leak Stopped

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 04/18/2006
Action: File review

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 04/05/2006
Action: File review

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 01/19/2006
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 01/26/2006
Action: Technical Correspondence / Assistance / Other

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 04/28/2006
Action: File review

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 10/22/2008
Action: File review

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 01/16/2009
Action: Closure/No Further Action Letter - #RCDEH Closure

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 06/17/2004
Action: File review

Global Id: T0606500734
Action Type: RESPONSE
Date: 04/30/2005
Action: Monitoring Report - Quarterly

Global Id: T0606500734
Action Type: RESPONSE
Date: 04/15/2007
Action: Monitoring Report - Quarterly

Global Id: T0606500734
Action Type: ENFORCEMENT

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Date: 05/18/2005
Action: File review

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 04/20/2007
Action: File review

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 08/13/2008
Action: File review

Global Id: T0606500734
Action Type: Other
Date: 01/20/1999
Action: Leak Discovery

Global Id: T0606500734
Action Type: RESPONSE
Date: 10/15/2008
Action: Monitoring Report - Quarterly

Global Id: T0606500734
Action Type: RESPONSE
Date: 05/05/2004
Action: Preliminary Site Assessment Report

Global Id: T0606500734
Action Type: RESPONSE
Date: 11/22/2007
Action: Request for Closure

Global Id: T0606500734
Action Type: ENFORCEMENT
Date: 11/20/2002
Action: * Historical Enforcement

LUST:
Global Id: T0606500734
Status: Open - Case Begin Date
Status Date: 11/10/1998

Global Id: T0606500734
Status: Open - Site Assessment
Status Date: 01/20/1999

Global Id: T0606500734
Status: Open - Site Assessment
Status Date: 03/08/1999

Global Id: T0606500734
Status: Open - Remediation
Status Date: 12/22/2002

Global Id: T0606500734
Status: Open - Site Assessment

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Status Date: 02/05/2004

Global Id: T0606500734
Status: Completed - Case Closed
Status Date: 01/16/2009

RIVERSIDE CO. LUST:
Name: MOBIL #18-HNY
Address: 2192 W RAMSEY ST
City,State,Zip: BANNING, CA
Region: RIVERSIDE
Facility ID: 9914864
Employee: Shurlow-LOP
Site Closed: Yes
Case Type: Soil only
Facility Status: closed/action completed
Casetype Decode: Soil only is impacted
Fstatus Decode: Closed/Action completed

Name: MOBIL #18-HNY
Address: 2192 W RAMSEY ST
City,State,Zip: BANNING, CA
Region: RIVERSIDE
Facility ID: 91536
Employee: Jones
Site Closed: Yes
Case Type: Undefined
Facility Status: closed/action completed
Casetype Decode: Undefined
Fstatus Decode: Closed/Action completed

CERS HAZ WASTE:
Name: 22ND STREET SHELL
Address: 2192 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 423
CERS ID: 10317271
CERS Description: Hazardous Waste Generator

SWEEPS UST:
Name: MOBIL #18-HNY
Address: 2192 W RAMSEY ST
City: BANNING
Status: Active
Comp Number: 39368
Number: 1
Board Of Equalization: 44-000400
Referral Date: 11-17-92
Action Date: 11-17-92
Created Date: 02-29-88
Owner Tank Id: 000726
SWRCB Tank Id: 33-000-039368-000001
Tank Status: A
Capacity: 12000
Active Date: 11-17-92

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 3

Name: MOBIL #18-HNY
Address: 2192 W RAMSEY ST
City: BANNING
Status: Active
Comp Number: 39368
Number: 1
Board Of Equalization: 44-000400
Referral Date: 11-17-92
Action Date: 11-17-92
Created Date: 02-29-88
Owner Tank Id: 000726
SWRCB Tank Id: 33-000-039368-000002
Tank Status: A
Capacity: 10000
Active Date: 11-17-92
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED

Name: MOBIL #18-HNY
Address: 2192 W RAMSEY ST
City: BANNING
Status: Active
Comp Number: 39368
Number: 1
Board Of Equalization: 44-000400
Referral Date: 11-17-92
Action Date: 11-17-92
Created Date: 02-29-88
Owner Tank Id: 000726
SWRCB Tank Id: 33-000-039368-000003
Tank Status: A
Capacity: 8000
Active Date: 11-17-92
Tank Use: M.V. FUEL
STG: P
Content: LEADED

CERS TANKS:
Name: 22ND STREET SHELL
Address: 2192 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 423
CERS ID: 10317271
CERS Description: Underground Storage Tank

CHMIRS:
Address: 2192 WEST RAMSEY ST
City,State,Zip: BANNING, CA 92220
OES Incident Number: 16-4267
OES notification: 07/14/2016

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

| | |
|---|---|
| Waterway Involved: | No |
| Waterway: | n/a |
| Spill Site: | Service Station |
| Cleanup By: | Unknown |
| Type: | PETROLEUM |
| Measure: | Gal(s) |
| Date/Time: | 1200 |
| Year: | 2016 |
| Agency: | NRC |
| Incident Date: | 07/14/2016 |
| Admin Agency: | Banning Fire Department |
| Contained: | Yes |
| Site Type: | n/a |
| Substance: | Unleaded Gasoline |
| Quantity Released: | 12 |
| #1 Pipeline: | No |
| #2 Pipeline: | No |
| #3 Pipeline: | No |
| #1 Vessel >= 300 Tons: | No |
| #2 Vessel >= 300 Tons: | No |
| #3 Vessel >= 300 Tons: | No |
| Evacs: | No |
| Injuries: | No |
| Fatals: | No |
| Description: | NRC Report states: "CALLER IS REPORTING THAT THEY ARE PERFORMING CONSTRUCTION AT A GAS STATION AT THE INCIDENT LOCATION AND DURING CONSTRUCTION OPERATIONS ONE OF THE UNDERGROUND GAS LINES WAS BREACHED DISCHARGING APPROXIMATELY 12 GALLONS OF GASOLINE. AFF |

CORTESE:

| | |
|---|---|
| Name: | MOBIL #18-HNY |
| Address: | 2192 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Region: | CORTESE |
| Global ID: | T0606500734 |
| Site/Facility Type: | LUST CLEANUP SITE |
| Cleanup Status: | COMPLETED - CASE CLOSED |
| Flag: | active |
| File Name: | Active Open |

HAZNET:

| | |
|---|---|
| Name: | BANNING FUEL INC DBA 22ND SHELL STATION |
| Address: | 2192 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Contact: | BEN NIKKAR |
| Telephone: | 9518491301 |
| Mailing Address: | 2192 W RAMSEY ST |
| Year: | 2016 |
| Gepaid: | CAL000408093 |
| TSD EPA ID: | CAD044429835 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Tons: 1.05

CERS:
Name: MOBIL #18-HNY
Address: 2192 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 201272
CERS ID: T0606500734
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Regional Board Caseworker
Entity Name: KAI DUNN - COLORADO RIVER BASIN RWQCB (REGION 7)
Affiliation Address: 73-720 FRED WARING DR. STE 100
Affiliation City: PALM DESERT
Affiliation State: CA
Affiliation Phone: ,

Name: 22ND STREET SHELL
Address: 2192 W RAMSEY ST
City,State,Zip: BANNING, CA 92220
Site ID: 423
CERS ID: 10317271
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 423
Site Name: 22nd Street Shell
Violation Date: 11-30-2018
Citation: 23 CCR 16 2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2711(a)(8)
Violation Description: Failure to submit or maintain a current facility plot plan.
Violation Notes: Returned to compliance on 04/11/2019. OBSERVATION: Observed site plot plan to be inaccurate and/or incomplete with missing required information. The plan failed to show accurate locations of 87 and 91 tanks. CORRECTIVE ACTION: Owner/operator shall update the facility site plot plan making sure all required information is documented on the map and submit in CERS maintaining a copy on site and available for review. [87 and 91 tanks are reversed on map, in actuality tank nearest car wash contains 87.]
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Violation Date: 11-05-2020
Citation: 22 CCR 12 66262.23(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.23(a)
Violation Description: Failure to properly complete the Uniform Hazardous Waste Manifest.
Violation Notes: Returned to compliance on 07/30/2021. OBSERVATION: Observed manifest with missing information. Specifically, manifest number 01995366JJK for pick up that occurred on 02/07/2020 was missing designated facility signature. CORRECTIVE ACTION: Owner/Operator shall properly prepare manifests for any transport of a hazardous waste for off-site transfer, treatment, storage or disposal. Provide a copy of a prepared

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

| | |
|---|---|
| | manifest to the CUPA to verify compliance. Copies of Manifests can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 08-28-2014 |
| Citation: | 40 CFR 1 265.33 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.33 |
| Violation Description: | Failure of the facility to test and maintain all communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment. |
| Violation Notes: | Returned to compliance on 10/08/2014. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-14-2017 |
| Citation: | 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h) |
| Violation Description: | Failure to have an approved UST Monitoring Plan. |
| Violation Notes: | Returned to compliance on 12/01/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 06-10-2015 |
| Citation: | 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f) |
| Violation Description: | Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date. |
| Violation Notes: | Returned to compliance on 10/27/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 12-01-2017 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit a site map with all required content. |
| Violation Notes: | Returned to compliance on 12/28/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

| | |
|---|---|
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 08-28-2014 |
| Citation: | 40 CFR 1 265.31 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.31 |
| Violation Description: | Failure to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, or surface water which could threaten human health or the environment.. |
| Violation Notes: | Returned to compliance on 10/08/2014. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |

| | |
|---|---|
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 10-03-2014 |
| Citation: | 40 CFR 1 265.33 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.33 |
| Violation Description: | Failure of the facility to test and maintain all communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment. |
| Violation Notes: | Returned to compliance on 10/08/2014. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |

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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 06-24-2015 |
| Citation: | HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34 |
| Violation Description: | Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance. |
| Violation Notes: | Returned to compliance on 11/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |

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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 10-27-2015 |
| Citation: | HSC 6.7 25286(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25286(a) |
| Violation Description: | Failure to submit an complete and accurate application for a permit to operate an underground storage tank, or for renewal of the permit. |
| Violation Notes: | Returned to compliance on 10/27/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |

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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 06-10-2015 |
| Citation: | HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d) |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

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| Violation Description: | Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities. |
| Violation Notes: | Returned to compliance on 10/27/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 06-24-2015 |
| Citation: | 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i) |
| Violation Description: | Failure to submit, obtain approval, or maintain a complete/accurate response plan. |
| Violation Notes: | Returned to compliance on 11/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 06-10-2015 |
| Citation: | HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507 |
| Violation Description: | Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities. |
| Violation Notes: | Returned to compliance on 10/27/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 01-18-2017 |
| Citation: | 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i) |
| Violation Description: | Failure to have a UST Monitoring Plan available on site. |
| Violation Notes: | Returned to compliance on 03/09/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-14-2017 |
| Citation: | Un-Specified |
| Violation Description: | Business Plan Program - Operations/Maintenance - General Local Ordinance |
| Violation Notes: | Returned to compliance on 09/14/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

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| Violation Date: | 01-18-2017 |
| Citation: | 23 CCR 16 2632(d)(1)(C), 2641(h), 2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(d)(1)(C), 2641(h), 2711(a)(8) |
| Violation Description: | Failure to submit or update a plot plan. |
| Violation Notes: | Returned to compliance on 03/09/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-07-2016 |
| Citation: | 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i) |
| Violation Description: | Failure to have a UST Response Plan available on site. |
| Violation Notes: | Returned to compliance on 03/09/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 06-24-2015 |
| Citation: | 23 CCR 16 2715(a) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(a) |
| Violation Description: | Failure to submit statement of UST compliance and/or Designated Operator certification. |
| Violation Notes: | Returned to compliance on 10/27/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 11-17-2021 |
| Citation: | 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G) |
| Violation Description: | Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

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| | after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months. |
| Violation Notes: | Returned to compliance on 02/03/2022. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-03-2020 |
| Citation: | 22 CCR 12 66262.23(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.23(a) |
| Violation Description: | Failure to properly complete the Uniform Hazardous Waste Manifest. |
| Violation Notes: | Returned to compliance on 07/30/2021. OBSERVATION: Observed manifest with missing copy including Designated Facility signature. CORRECTIVE ACTION: Owner/Operator shall properly prepare manifests for any transport of a hazardous waste for off-site transfer, treatment, storage or disposal. Provide a copy of a prepared manifest to the CUPA to verify compliance. Copies of waste manifest documentation can be sent via the following means: email: rsgarcia@rivco.org / fax: 951-791-1778; or I can stop by and review in person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 01-18-2017 |
| Citation: | 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i) |
| Violation Description: | Failure to have a UST Response Plan available on site. |
| Violation Notes: | Returned to compliance on 03/09/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-14-2017 |
| Citation: | 23 CCR 16 2637(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2637(e) |
| Violation Description: | Failure to submit a copy of the secondary containment test results to the CUPA within 30 days after the test. |
| Violation Notes: | Returned to compliance on 09/14/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 10-27-2015 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit a site map with all |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

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| | required content. |
| Violation Notes: | Returned to compliance on 01/06/2016. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-07-2016 |
| Citation: | 23 CCR 16 2632(d)(1)(C), 2641(h), 2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(d)(1)(C), 2641(h), 2711(a)(8) |
| Violation Description: | Failure to submit or update a plot plan. |
| Violation Notes: | Returned to compliance on 03/09/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-07-2016 |
| Citation: | 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i) |
| Violation Description: | Failure to have a UST Monitoring Plan available on site. |
| Violation Notes: | Returned to compliance on 03/09/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 10-03-2014 |
| Citation: | HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple |
| Violation Description: | Business Plan Program - Operations/Maintenance - General |
| Violation Notes: | Returned to compliance on 10/08/2014. [LOCAL ORDINANCE VIOLATION 104D] Emergency equipment has been posted appropriately. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 06-24-2015 |
| Citation: | 23 CCR 16 2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2711(a)(8) |
| Violation Description: | Failure to submit, obtain approval, or maintain a complete/accurate plot plan. |
| Violation Notes: | Returned to compliance on 11/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-14-2017 |
| Citation: | HSC 6.95 25508.1(a)-(f) - California Health and Safety Code, Chapter |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

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| | 6.95, Section(s) 25508.1(a)-(f) |
| Violation Description: | Failure to electronically update business plan within 30 days of any one of the following events: A 100 percent or more increase in the quantity of a previously disclosed material. Any handling of a previously undisclosed hazardous materials at or above reportable quantities. A change of business address, business ownership, or business name. A substantial change in the handler's operations that requires modification to any portion of the business plan. |
| Violation Notes: | Returned to compliance on 12/28/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-07-2016 |
| Citation: | HSC 6.95 25505(c) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(c) |
| Violation Description: | Failure to have a business plan readily available to personnel of the business or the unified program facility with responsibilities for emergency response or training. |
| Violation Notes: | Returned to compliance on 03/09/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-14-2017 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit a site map with all required content. |
| Violation Notes: | Returned to compliance on 12/28/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-14-2017 |
| Citation: | 22 CCR 12 66262.12 - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.12 |
| Violation Description: | Failure to obtain an Identification Number prior to treating, storing, disposing of, transporting or offering for transportation any hazardous waste. |
| Violation Notes: | Returned to compliance on 12/01/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 08-28-2014 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit hazardous material |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

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| | inventory information for all reportable hazardous materials on site at or above reportable quantities. |
| Violation Notes: | Returned to compliance on 10/08/2014. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 12-01-2017 |
| Citation: | HSC 6.95 25508.1(a)-(f) - California Health and Safety Code, Chapter 6.95, Section(s) 25508.1(a)-(f) |
| Violation Description: | Failure to electronically update business plan within 30 days of any one of the following events: A 100 percent or more increase in the quantity of a previously disclosed material. Any handling of a previously undisclosed hazardous materials at or above reportable quantities. A change of business address, business ownership, or business name. A substantial change in the handler's operations that requires modification to any portion of the business plan. |
| Violation Notes: | Returned to compliance on 12/28/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 12-01-2017 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities. |
| Violation Notes: | Returned to compliance on 12/28/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-07-2016 |
| Citation: | HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34 |
| Violation Description: | Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance. |
| Violation Notes: | Returned to compliance on 03/09/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-14-2017 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities. |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

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| Violation Notes: | Returned to compliance on 12/28/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 02-02-2022 |
| Citation: | 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G) |
| Violation Description: | Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months. |
| Violation Notes: | Returned to compliance on 02/03/2022. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 10-27-2015 |
| Citation: | 23 CCR 16 2715(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(f) |
| Violation Description: | Failure to comply with one or more of the following: provide training to facility employee(s) responsible for proper operation and maintenance every 12 months and/or train new employee(s) who are responsible for proper operation and maintenance within 30-days of hire and/or to have at least one employee present during operating hours that has been trained in the proper operation and maintenance of the UST system. |
| Violation Notes: | Returned to compliance on 03/29/2016. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
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| Site ID: | 423 |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

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| Site Name: | 22nd Street Shell |
| Violation Date: | 01-05-2022 |
| Citation: | 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G) |
| Violation Description: | Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months. |
| Violation Notes: | Returned to compliance on 02/03/2022. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |

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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-04-2018 |
| Citation: | 23 CCR 16 2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2711(a)(8) |
| Violation Description: | Failure to submit or maintain a current facility plot plan. |
| Violation Notes: | Returned to compliance on 04/11/2019. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |

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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 10-20-2014 |
| Citation: | 23 CCR 16 2715(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(f) |
| Violation Description: | Failure to comply with one or more of the following: provide training to facility employee(s) responsible for proper operation and maintenance every 12 months and/or train new employee(s) who are responsible for proper operation and maintenance within 30-days of hire and/or to have at least one employee present during operating hours that has been trained in the proper operation and maintenance of the UST system. |
| Violation Notes: | Returned to compliance on 10/20/2014. |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Violation Date: 08-28-2014
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Description: Business Plan Program - Operations/Maintenance - General
Violation Notes: Returned to compliance on 10/08/2014. [LOCAL ORDINANCE VIOLATION 104D] Emergency equipment has been posted appropriately.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Violation Date: 10-27-2015
Citation: 23 CCR 16 2715(f)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(f)(2)
Violation Description: The owner/operator has failed to obtain approval from the CUPA for a training program at an unstaffed facility and/or implement the approved training program.
Violation Notes: Returned to compliance on 11/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Violation Date: 10-20-2014
Citation: 23 CCR 16 2715(c)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)(2)
Violation Description: Failure to comply with one or more of the following: maintain the spill bucket in good condition, containment free of debris/liquid, and/or to remove the contents of the spill bucket when a release/leak/spill was observed.
Violation Notes: Returned to compliance on 12/23/2014.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Violation Date: 06-10-2015
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit a site map with all required content.
Violation Notes: Returned to compliance on 11/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

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| Violation Date: | 09-14-2017 |
| Citation: | 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f) |
| Violation Description: | Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date. |
| Violation Notes: | Returned to compliance on 09/14/2017. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HW |
| Violation Source: | CERS, |
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| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 09-03-2020 |
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |
| Violation Notes: | Returned to compliance on 10/04/2020. OBSERVATION: No training records observed for 2019 and 2020. CORRECTIVE ACTION: Owner/operator shall provide training to all employees. Documentation shall be retained and be made available for inspection for a minimum period of 3 years from the date of the training. Copies of Hazardous Materials Training Documentation can be sent via the following means: email: rsgarcia@rivco.org / fax: 951-791-1778; or I can stop by and review in person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 06-24-2015 |
| Citation: | HSC 6.7 25286(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25286(a) |
| Violation Description: | Failure to submit an complete and accurate application for a permit to operate an underground storage tank, or for renewal of the permit. |
| Violation Notes: | Returned to compliance on 11/13/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | UST |
| Violation Source: | CERS, |
| | |
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Violation Date: | 06-10-2015 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities. |
| Violation Notes: | Returned to compliance on 10/27/2015. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Violation Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Violation Date: 06-10-2015
Citation: 19 CCR 6.95 25508(a)(1) - California Code of Regulations, Title 19, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit the Business Activities Page and/or Business Owner Operator Identification Page.
Violation Notes: Returned to compliance on 10/27/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Violation Date: 06-10-2015
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Description: Business Plan Program - Administration/Documentation - General
Violation Notes: Returned to compliance on 10/27/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Violation Date: 06-10-2015
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to establish and electronically submit an adequate emergency response plan and procedures for a release or threatened release of a hazardous material.
Violation Notes: Returned to compliance on 10/27/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Violation Date: 06-24-2015
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)
Violation Description: Failure to maintain on site an approved monitoring plan.
Violation Notes: Returned to compliance on 11/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 03-09-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 06-10-2015 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-03-2020 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | ** #26./#28./#31. While on site observed current records and records from the majority of the past three years. Facility shall ensure 3 years of monitoring/maintenance records, monthly DO inspection reports, and training records are available for review at the time of inspection. ** |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-03-2020 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-04-2018 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-04-2018 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-07-2016 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-14-2017 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Eval Notes: Generator inspection
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 10-03-2014
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Ride along with Jessica
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-21-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-27-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-05-2020
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 01-18-2017
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-09-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-10-2015
Violations Found: Yes

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

| | |
|---|---|
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-01-2021 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Facility is a public gas station with three double-walled USTs: 10,000 gallons - Diesel, 8,000 gallons - 91, and 12,000 gallons - 87. |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-04-2019 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Petrotech on site to perform annual monitoring certification and SB-989 testing. Ensure owner/operator signature is on all monthly DO reports and description of follow-up actions are documented. Employee training conducted while on site. UST employee training form provided while on site. |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-07-2016 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 10-20-2014 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| Eval General Type: | Other/Unknown |
| Eval Date: | 12-01-2017 |
| Violations Found: | Yes |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | Follow up inspection |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |
| Eval General Type: | Other/Unknown |
| Eval Date: | 01-05-2022 |
| Violations Found: | Yes |
| Eval Type: | Other, not routine, done by local agency |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 01-18-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 02-02-2022
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Delivered failed OPEI NOV to facility.
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-29-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-24-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-28-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-03-2020
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: ** #18. Facility shall ensure up-to-date Safety Data Sheets[SDS] are available for staff on site. **
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-14-2017

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

| | |
|---|---|
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | CMD |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| Eval General Type: | Other/Unknown |
| Eval Date: | 10-03-2014 |
| Violations Found: | Yes |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | Ride along with Jessica |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Other/Unknown |
| Eval Date: | 10-27-2015 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Other/Unknown |
| Eval Date: | 12-01-2017 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | Follow up inspection |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Other/Unknown |
| Eval Date: | 06-18-2015 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| Eval General Type: | Other/Unknown |
| Eval Date: | 07-30-2021 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | #42. Generator’s Initial Copy of manifest is left on-site at the time of removal; once waste reaches Designated Facility a *Designated Facility to Generator* copy of the manifest is to be provided to generator/facility confirming waste(s) reaches Designated Facility/"grave". In an instance when this final copy is not provided, the facility shall contact the waste hauler to acquire a copy. |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 08-28-2014 |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

| | |
|---|---|
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HW |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-07-2016 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 09-14-2017 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Handler inspection |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 10-27-2015 |
| Violations Found: | Yes |
| Eval Type: | Other, not routine, done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | HMRRP |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 11-17-2021 |
| Violations Found: | Yes |
| Eval Type: | Other, not routine, done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 11-30-2018 |
| Violations Found: | Yes |
| Eval Type: | Other, not routine, done by local agency |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |
| | |
| Eval General Type: | Other/Unknown |
| Eval Date: | 12-01-2017 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | Follow up inspection |
| Eval Division: | Riverside County Department of Env Health |
| Eval Program: | UST |
| Eval Source: | CERS, |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Enforcement Action:

| | |
|---|---|
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Site Address: | 2192 W RAMSEY ST |
| Site City: | BANNING |
| Site Zip: | 92220 |
| Enf Action Date: | 06-10-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Division: | Riverside County Department of Env Health |
| Enf Action Program: | HMRRP |
| Enf Action Source: | CERS, |

| | |
|---|---|
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Site Address: | 2192 W RAMSEY ST |
| Site City: | BANNING |
| Site Zip: | 92220 |
| Enf Action Date: | 06-10-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Division: | Riverside County Department of Env Health |
| Enf Action Program: | HW |
| Enf Action Source: | CERS, |

| | |
|---|---|
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Site Address: | 2192 W RAMSEY ST |
| Site City: | BANNING |
| Site Zip: | 92220 |
| Enf Action Date: | 06-24-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Division: | Riverside County Department of Env Health |
| Enf Action Program: | UST |
| Enf Action Source: | CERS, |

| | |
|---|---|
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Site Address: | 2192 W RAMSEY ST |
| Site City: | BANNING |
| Site Zip: | 92220 |
| Enf Action Date: | 08-28-2014 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Division: | Riverside County Department of Env Health |
| Enf Action Program: | HMRRP |
| Enf Action Source: | CERS, |

| | |
|---|---|
| Site ID: | 423 |
| Site Name: | 22nd Street Shell |
| Site Address: | 2192 W RAMSEY ST |
| Site City: | BANNING |
| Site Zip: | 92220 |
| Enf Action Date: | 08-28-2014 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HW
Enf Action Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Site Address: 2192 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 10-03-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HMRRP
Enf Action Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Site Address: 2192 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 10-03-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HW
Enf Action Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Site Address: 2192 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 10-20-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Site Address: 2192 W RAMSEY ST
Site City: BANNING
Site Zip: 92220
Enf Action Date: 10-27-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HMRRP
Enf Action Source: CERS,

Site ID: 423
Site Name: 22nd Street Shell
Site Address: 2192 W RAMSEY ST
Site City: BANNING
Site Zip: 92220

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

Enf Action Date: 10-27-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS,

Coordinates:
Site ID: 423
Facility Name: 22nd Street Shell
Env Int Type Code: HWG
Program ID: 10317271
Ref Point Type Desc: Center of a facility or station.,
Latitude: 33.925200
Longitude: -116.900430

Affiliation:
Affiliation Type Desc: Identification Signer
Entity Name: Ben Nikkar
Entity Title: Owner
Affiliation Phone: ,

Affiliation Type Desc: UST Permit Applicant
Entity Name: Ben Nikkar
Entity Title: Owner
Affiliation Phone: (909) 795-7045,

Affiliation Type Desc: UST Property Owner Name
Entity Name: Banning Fuel Inc.
Affiliation Address: 2192 W. Ramsey St.
Affiliation City: Banning
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92220
Affiliation Phone: (909) 849-1301,

Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055,

Affiliation Type Desc: Operator
Entity Name: Banning Fuel Inc.
Affiliation Phone: (909) 795-7045,

Affiliation Type Desc: Parent Corporation
Entity Name: Banning Fuel Inc.
Affiliation Phone: ,

Affiliation Type Desc: Document Preparer
Entity Name: shawn khattak
Affiliation Phone: ,

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Ben Nikkar |
| Affiliation Address: | 2192 W. Ramsey St. |
| Affiliation City: | Banning |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92220 |
| Affiliation Phone: | (909) 795-7045, |

| | |
|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Ben Nikkar |
| Affiliation Address: | 2192 W. Ramsey St. |
| Affiliation City: | Banning |
| Affiliation State: | CA |
| Affiliation Zip: | 92220 |
| Affiliation Phone: | , |

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Affiliation Address: | 2192 W. Ramsey St. |
| Affiliation City: | Banning |
| Affiliation State: | CA |
| Affiliation Zip: | 92220 |
| Affiliation Phone: | , |

| | |
|---|---|
| Affiliation Type Desc: | Property Owner |
| Entity Name: | Banning Fuel Inc. |
| Affiliation Address: | 2192 W Ramsey St. |
| Affiliation City: | Banning |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92220 |
| Affiliation Phone: | (909) 795-7045, |

| | |
|---|---|
| Affiliation Type Desc: | UST Tank Operator |
| Entity Name: | Ben Nikkar |
| Affiliation Address: | 2192 W. Ramsey St. |
| Affiliation City: | Banning |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92220 |
| Affiliation Phone: | (909) 795-7045, |

| | |
|---|---|
| Affiliation Type Desc: | UST Tank Owner |
| Entity Name: | Banning Fuel Inc. |
| Affiliation Address: | 2192 W. Ramsey St. |
| Affiliation City: | Banning |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92220 |
| Affiliation Phone: | (909) 795-7045, |

HWTS:

| | |
|---|---|
| Name: | BANNING FUEL INC DBA 22ND SHELL STATION |
| Address: | 2192 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |

**BANNING FUEL INC DBA 22ND SHELL STATION (Continued)** **S103642448**

| | |
|---|---|
| EPA ID: | CAL000408093 |
| Create Date: | 06/29/2015 |
| Mailing Address: | 2192 W RAMSEY ST |
| Mailing City,State,Zip: | BANNING, CA 92220 |
| Owner Name: | BANNING FUEL INC |
| Owner Address: | 2192 W RAMSEY ST |
| Owner City,State,Zip: | BANNING, CA 92220 |
| Contact Name: | BEN NIKKAR |
| Contact Address: | 2192 W RAMSEY ST |
| City,State,Zip: | BANNING, CA 92220 |
| Facility Status: | Active |
| Facility Type: | PERMANENT |
| Category: | STATE |
| Latitude: | 33.92523 |
| Longitude: | -116.900487 |

NAICS:

| | |
|---|---|
| EPA ID: | CAL000408093 |
| Create Date: | 2015-06-29 16:47:38.460 |
| NAICS Code: | 44719 |
| NAICS Description: | Other Gasoline Stations |
| Issued EPA ID Date: | 2015-06-29 16:47:38.45700 |
| Facility Name: | BANNING FUEL INC DBA 22ND SHELL STATION |
| Facility Address: | 2192 W RAMSEY ST |
| Facility City: | BANNING |
| Facility State: | CA |
| Facility Zip: | 92220 |

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**K43** **MOBIL SS #18-HNY** **HIST CORTESE** **S105022671**
**WNW** **2192 RAMSEY** **N/A**
**1/4-1/2** **BANNING, CA 92220**
**0.444 mi.**
**2343 ft.** **Site 6 of 7 in cluster K**

**Relative:**
**Higher**

**Actual:**
**2446 ft.**

HIST CORTESE:

| | |
|---|---|
| edr_fname: | MOBIL SS #18-HNY |
| edr_fadd1: | 2192 RAMSEY |
| City,State,Zip: | BANNING, CA 92220 |
| Region: | CORTESE |
| Facility County Code: | 33 |
| Reg By: | LTNKA |
| Reg Id: | 7T2220021 |

---

**K44** **MOBIL STATION #18-HNY** **LUST** **S104402580**
**WNW** **2192 WEST RAMSEY STREET** **CERS** **N/A**
**1/4-1/2** **BANNING, CA 92220**
**0.444 mi.**
**2343 ft.** **Site 7 of 7 in cluster K**

**Relative:**
**Higher**

**Actual:**
**2446 ft.**

LUST:

| | |
|---|---|
| Name: | MOBIL STATION #18-HNY |
| Address: | 2192 WEST RAMSEY STREET |
| City,State,Zip: | BANNING, CA 92220 |
| Lead Agency: | RIVERSIDE COUNTY LOP |
| Case Type: | LUST Cleanup Site |
| Geo Track: | http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606500723 |

**MOBIL STATION #18-HNY (Continued)** **S104402580**

| | |
|---|---|
| Global Id: | T0606500723 |
| Latitude: | 33.9252964614027 |
| Longitude: | -116.900618307935 |
| Status: | Completed - Case Closed |
| Status Date: | 08/25/1992 |
| Case Worker: | RIV |
| RB Case Number: | 7T2220009 |
| Local Agency: | RIVERSIDE COUNTY LOP |
| File Location: | Local Agency Warehouse |
| Local Case Number: | 91536 |
| Potential Media Affect: | Under Investigation |
| Potential Contaminants of Concern: | Gasoline |

LUST:

| | |
|---|---|
| Global Id: | T0606500723 |
| Contact Type: | Regional Board Caseworker |
| Contact Name: | Phan Le |
| Organization Name: | COLORADO RIVER BASIN RWQCB (REGION 7) |
| Address: | 73720 FRED WARING DRIVE SUITE #100 |
| City: | PALM DESERT |
| Email: | phan.le@waterboards.ca.gov |
| Phone Number: | 7607768974 |

| | |
|---|---|
| Global Id: | T0606500723 |
| Contact Type: | Local Agency Caseworker |
| Contact Name: | Riverside County LOP |
| Organization Name: | RIVERSIDE COUNTY LOP |
| Address: | 3880 LEMON ST SUITE 200 |
| City: | RIVERSIDE |
| Phone Number: | 9519558980 |

LUST:

| | |
|---|---|
| Global Id: | T0606500723 |
| Action Type: | Other |
| Date: | 08/19/1991 |
| Action: | Leak Reported |

| | |
|---|---|
| Global Id: | T0606500723 |
| Action Type: | ENFORCEMENT |
| Date: | 02/17/2009 |
| Action: | Closure/No Further Action Letter - #Site Closure |

| | |
|---|---|
| Global Id: | T0606500723 |
| Action Type: | ENFORCEMENT |
| Date: | 02/16/2009 |
| Action: | File review - #RCDEH Upload Site File 7/12/2010 |

| | |
|---|---|
| Global Id: | T0606500723 |
| Action Type: | Other |
| Date: | 08/19/1991 |
| Action: | Leak Discovery |

LUST:

| | |
|---|---|
| Global Id: | T0606500723 |
| Status: | Open - Case Begin Date |
| Status Date: | 08/19/1991 |

**MOBIL STATION #18-HNY (Continued)** **S104402580**

Global Id: T0606500723
Status: Completed - Case Closed
Status Date: 08/25/1992

LUST REG 7:
Region: 7
Status: 5R - Remediation Plan
Case Num: 7T2220021
Substance: Gasoline - Automotive
ID: 957
Global ID: T0606500734
Lead Agency: Local Agency
Case Worker: YO

CERS:
Name: MOBIL STATION #18-HNY
Address: 2192 WEST RAMSEY STREET
City,State,Zip: BANNING, CA 92220
Site ID: 196023
CERS ID: T0606500723
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Regional Board Caseworker
Entity Name: Phan Le - COLORADO RIVER BASIN RWQCB (REGION 7)
Affiliation Address: 73720 FRED WARING DRIVE SUITE #100
Affiliation City: PALM DESERT
Affiliation State: CA
Affiliation Phone: 7607768974,

Affiliation Type Desc: Local Agency Caseworker
Entity Name: Riverside County LOP - RIVERSIDE COUNTY LOP
Affiliation Address: 3880 LEMON ST SUITE 200
Affiliation City: RIVERSIDE
Affiliation State: CA
Affiliation Phone: 9519558980,

---

**L45** **UNOCAL #4118** **LUST** **U001573553**
**ENE** **437 W RAMSEY ST** **SWEEPS UST** **N/A**
**1/4-1/2** **BANNING, CA 92220** **HIST UST**
**0.469 mi.**
**2475 ft.** **Site 1 of 2 in cluster L**

**Relative:** **Lower**
**Actual:** **2360 ft.**

RIVERSIDE CO. LUST:
Name: UNOCAL #4118
Address: 437 W RAMSEY ST
City,State,Zip: BANNING, CA
Region: RIVERSIDE
Facility ID: 93938
Employee: Brown
Site Closed: Yes
Case Type: Soil only
Facility Status: closed/action completed
Casetype Decode: Soil only is impacted
Fstatus Decode: Closed/Action completed

**UNOCAL #4118 (Continued)** **U001573553**

SWEEPS UST:

| | |
|---|---|
| Name: | UNOCAL #4118 |
| Address: | 437 W RAMSEY ST |
| City: | BANNING |
| Status: | Active |
| Comp Number: | 17848 |
| Number: | 1 |
| Board Of Equalization: | 44-001057 |
| Referral Date: | 11-19-92 |
| Action Date: | 11-19-92 |
| Created Date: | 02-29-88 |
| Owner Tank Id: | 4118-34 |
| SWRCB Tank Id: | 33-000-017848-000001 |
| Tank Status: | A |
| Capacity: | 550 |
| Active Date: | 11-19-92 |
| Tank Use: | OIL |
| STG: | W |
| Content: | WASTE OIL |
| Number Of Tanks: | 3 |

| | |
|---|---|
| Name: | UNOCAL #4118 |
| Address: | 437 W RAMSEY ST |
| City: | BANNING |
| Status: | Active |
| Comp Number: | 17848 |
| Number: | 1 |
| Board Of Equalization: | 44-001057 |
| Referral Date: | 11-19-92 |
| Action Date: | 11-19-92 |
| Created Date: | 02-29-88 |
| Owner Tank Id: | 4118-22 |
| SWRCB Tank Id: | 33-000-017848-000002 |
| Tank Status: | A |
| Capacity: | 10000 |
| Active Date: | 11-19-92 |
| Tank Use: | M.V. FUEL |
| STG: | P |
| Content: | REG UNLEADED |

| | |
|---|---|
| Name: | UNOCAL #4118 |
| Address: | 437 W RAMSEY ST |
| City: | BANNING |
| Status: | Active |
| Comp Number: | 17848 |
| Number: | 1 |
| Board Of Equalization: | 44-001057 |
| Referral Date: | 11-19-92 |
| Action Date: | 11-19-92 |
| Created Date: | 02-29-88 |
| Owner Tank Id: | 4118-11 |
| SWRCB Tank Id: | 33-000-017848-000003 |
| Tank Status: | A |
| Capacity: | 10000 |
| Active Date: | 11-19-92 |
| Tank Use: | M.V. FUEL |
| STG: | P |

**UNOCAL #4118 (Continued)** **U001573553**

Content: REG UNLEADED

HIST UST:

| | |
|---|---|
| Name: | UNION OIL SERVICE STATION 411 |
| Address: | 437 W RAMSEY |
| City,State,Zip: | BANNING, CA 92220 |
| File Number: | 0001FA63 |
| URL: | http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0001FA63.pdf |
| Region: | STATE |
| Facility ID: | 00000017848 |
| Facility Type: | Gas Station |
| Contact Name: | GREGORY A NICHOLSON |
| Telephone: | 7148493719 |
| Owner Name: | UNION OIL COMPANY OF CALIFORNI |
| Owner Address: | 123 CAMINO DELA REINA |
| Owner City,St,Zip: | SAN DIEGO, CA 92108 |
| Total Tanks: | 0003 |
| | |
| Tank Num: | 001 |
| Container Num: | 4118-34 |
| Year Installed: | 1968 |
| Tank Capacity: | 00000550 |
| Tank Used for: | WASTE |
| Type of Fuel: | WASTE OIL |
| Leak Detection: | None |
| | |
| Tank Num: | 002 |
| Container Num: | 4118-22 |
| Year Installed: | 1968 |
| Tank Capacity: | 00010000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | PREMIUM |
| Leak Detection: | Stock Inventor, 10 |
| | |
| Tank Num: | 003 |
| Container Num: | 4118-11 |
| Year Installed: | 1968 |
| Tank Capacity: | 00010000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | UNLEADED |
| Leak Detection: | Stock Inventor, 10 |

Click here for Geo Tracker PDF:

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**L46** **UNOCAL STATION 4118** **LUST** **S105022674**
**ENE** **437 RAMSEY** **HIST UST** **N/A**
**1/4-1/2** **BANNING, CA 92220** **Cortese**
**0.469 mi.** **HIST CORTESE**
**2475 ft.** **Site 2 of 2 in cluster L** **CERS**

**Relative:**
**Lower**

**Actual:**
**2360 ft.**

LUST:

| | |
|---|---|
| Name: | UNOCAL STATION 4118 |
| Address: | 437 WEST RAMSEY STREET |
| City,State,Zip: | BANNING, CA 92220 |
| Lead Agency: | RIVERSIDE COUNTY LOP |
| Case Type: | LUST Cleanup Site |
| Geo Track: | http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606500727 |

**UNOCAL STATION 4118 (Continued)** **S105022674**

| | |
|---|---|
| Global Id: | T0606500727 |
| Latitude: | 33.9255825142536 |
| Longitude: | -116.881496837504 |
| Status: | Completed - Case Closed |
| Status Date: | 04/14/1994 |
| Case Worker: | RIV |
| RB Case Number: | 7T2220013 |
| Local Agency: | RIVERSIDE COUNTY LOP |
| File Location: | Local Agency Warehouse |
| Local Case Number: | 93938 |
| Potential Media Affect: | Under Investigation |
| Potential Contaminants of Concern: | Gasoline |

LUST:

| | |
|---|---|
| Global Id: | T0606500727 |
| Contact Type: | Regional Board Caseworker |
| Contact Name: | Phan Le |
| Organization Name: | COLORADO RIVER BASIN RWQCB (REGION 7) |
| Address: | 73720 FRED WARING DRIVE SUITE #100 |
| City: | PALM DESERT |
| Email: | phan.le@waterboards.ca.gov |
| Phone Number: | 7607768974 |

| | |
|---|---|
| Global Id: | T0606500727 |
| Contact Type: | Local Agency Caseworker |
| Contact Name: | Riverside County LOP |
| Organization Name: | RIVERSIDE COUNTY LOP |
| Address: | 3880 LEMON ST SUITE 200 |
| City: | RIVERSIDE |
| Phone Number: | 9519558980 |

LUST:

| | |
|---|---|
| Global Id: | T0606500727 |
| Action Type: | Other |
| Date: | 10/05/1993 |
| Action: | Leak Reported |

| | |
|---|---|
| Global Id: | T0606500727 |
| Action Type: | ENFORCEMENT |
| Date: | 04/13/1994 |
| Action: | File review - #RCDEH Upload Site File 10/30/2015 |

| | |
|---|---|
| Global Id: | T0606500727 |
| Action Type: | Other |
| Date: | 10/05/1993 |
| Action: | Leak Stopped |

| | |
|---|---|
| Global Id: | T0606500727 |
| Action Type: | ENFORCEMENT |
| Date: | 04/14/1994 |
| Action: | Closure/No Further Action Letter - #Riv Co Closure |

| | |
|---|---|
| Global Id: | T0606500727 |
| Action Type: | Other |
| Date: | 10/04/1993 |
| Action: | Leak Discovery |

**UNOCAL STATION 4118 (Continued)** **S105022674**

LUST:
Global Id: T0606500727
Status: Open - Case Begin Date
Status Date: 10/04/1993

Global Id: T0606500727
Status: Completed - Case Closed
Status Date: 04/14/1994

LUST REG 7:
Region: 7
Status: 9 - Case Closed
Case Num: 7T2220013
Substance: Gasoline - Automotive
ID: 1234
Global ID: T0606500727
Lead Agency: Local Agency
Case Worker: RT

HIST UST:
Name: STATION 4118
Address: 437 WEST RAMSEY
City,State,Zip: BANNING, CA 92220
File Number: 0001FA72
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0001FA72.pdf

Click here for Geo Tracker PDF:

CORTESE:
Name: UNOCAL STATION 4118
Address: 437 WEST RAMSEY STREET
City,State,Zip: BANNING, CA 92220
Region: CORTESE
Global ID: T0606500727
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Flag: active
File Name: Active Open

HIST CORTESE:
edr_fname: UNOCAL STATION 4118
edr_fadd1: 437 RAMSEY
City,State,Zip: BANNING, CA 92220
Region: CORTESE
Facility County Code: 33
Reg By: LTNKA
Reg Id: 7T2220013

CERS:
Name: UNOCAL STATION 4118
Address: 437 WEST RAMSEY STREET
City,State,Zip: BANNING, CA 92220

**UNOCAL STATION 4118 (Continued)** **S105022674**

Site ID: 210646
CERS ID: T0606500727
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Regional Board Caseworker
Entity Name: Phan Le - COLORADO RIVER BASIN RWQCB (REGION 7)
Affiliation Address: 73720 FRED WARING DRIVE SUITE #100
Affiliation City: PALM DESERT
Affiliation State: CA
Affiliation Phone: 7607768974,

Affiliation Type Desc: Local Agency Caseworker
Entity Name: Riverside County LOP - RIVERSIDE COUNTY LOP
Affiliation Address: 3880 LEMON ST SUITE 200
Affiliation City: RIVERSIDE
Affiliation State: CA
Affiliation Phone: 9519558980,

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**M47** **14-ACRE PROPERTY FOR FUTURE ELEMENTARY SCHOOL** **ENVIROSTOR** **S118757290**
**ESE** **W. OF BANNING HS & SOUTH OF WESTWARD AVE.** **SCH** **N/A**
**1/2-1** **BANNING, CA 92220**
**0.682 mi.**
**3599 ft.** **Site 1 of 2 in cluster M**

**Relative:**
**Lower**

**Actual:**
**2285 ft.**

ENVIROSTOR:
Name: 14-ACRE PROPERTY FOR FUTURE ELEMENTARY SCHOOL
Address: W. OF BANNING HS & SOUTH OF WESTWARD AVE.
City,State,Zip: BANNING, CA 92220
Facility ID: 60002115
Status: No Action Required
Status Date: 01/15/2015
Site Code: 404906
Site Type: School Investigation
Site Type Detailed: School
Acres: 14
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Johnson Abraham
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 42
Senate: 23
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 33.91807
Longitude: -116.8781
APN: 543-040-001, 543-040-002
Past Use: NONE
Potential COC: Under Investigation
Confirmed COC: Under Investigation
Potential Description: NMA
Alias Name: 543-040-001
Alias Type: APN
Alias Name: 543-040-002

**14-ACRE PROPERTY FOR FUTURE ELEMENTARY SCHOOL (Continued)** **S118757290**

| | |
|---|---|
| Alias Type: | APN |
| Alias Name: | 404906 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 60002115 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Phase 1 |
| Completed Date: | 01/15/2015 |

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Document Type: | Other Report |
| Completed Date: | 10/14/2014 |
| Comments: | Phase I Application received via email on 10/13/2014; hard copy received on 10/20/2014. |

SCH:

| | |
|---|---|
| Name: | 14-ACRE PROPERTY FOR FUTURE ELEMENTARY SCHOOL |
| Address: | W. OF BANNING HS & SOUTH OF WESTWARD AVE. |
| City,State,Zip: | BANNING, CA 92220 |
| Facility ID: | 60002115 |
| Site Type: | School Investigation |
| Site Type Detail: | School |
| Site Mgmt. Req.: | NONE SPECIFIED |
| Acres: | 14 |
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Lead Agency Description: | DTSC - Site Cleanup Program |
| Project Manager: | Johnson Abraham |
| Supervisor: | Shahir Haddad |
| Division Branch: | Southern California Schools & Brownfields Outreach |
| Site Code: | 404906 |
| Assembly: | 42 |
| Senate: | 23 |
| Status: | No Action Required |
| Status Date: | 01/15/2015 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 33.91807 |
| Longitude: | -116.8781 |
| APN: | 543-040-001, 543-040-002 |
| Past Use: | NONE |
| Potential COC: | Under Investigation |
| Confirmed COC: | Under Investigation |
| Potential Description: | NMA |
| Alias Name: | 543-040-001 |
| Alias Type: | APN |
| Alias Name: | 543-040-002 |
| Alias Type: | APN |
| Alias Name: | 404906 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 60002115 |
| Alias Type: | Envirostor ID Number |

**14-ACRE PROPERTY FOR FUTURE ELEMENTARY SCHOOL (Continued)** **S118757290**

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Document Type: Phase 1
Completed Date: 01/15/2015

Completed Area Name: PROJECT WIDE
Completed Document Type: Other Report
Completed Date: 10/14/2014
Comments: Phase I Application received via email on 10/13/2014; hard copy received on 10/20/2014.

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**M48** **RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-RO** **ENVIROSTOR** **S113057762**
**ESE** **100 W WESTWARD AVE** **SCH** **N/A**
**1/2-1** **BANNING, CA 92220** **HAZNET**
**0.696 mi.** **CERS**
**3675 ft.** **Site 2 of 2 in cluster M** **HWTS**

**Relative:**
**Lower**

**Actual:**
**2284 ft.**

ENVIROSTOR:
Name: BANNING HIGH SCHOOL
Address: 100 WEST WESTWARD AVENUE
City,State,Zip: BANNING, CA 92220
Facility ID: 60002529
Status: No Action Required
Status Date: 09/07/2017
Site Code: 404943
Site Type: School Investigation
Site Type Detailed: School
Acres: 50.69
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Johnson Abraham
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: , 42
Senate: , 23
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 33.91809
Longitude: -116.8781
APN: NONE SPECIFIED
Past Use: NONE
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: 31000-NO
Potential Description: NMA
Alias Name: 404943
Alias Type: Project Code (Site Code)
Alias Name: 60002529
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Document Type: Fieldwork
Completed Date: 09/07/2017

Completed Area Name: PROJECT WIDE

**RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP (Continued)** **S113057762**

Completed Document Type: Phase 1
Completed Date: 09/07/2017
Comments: DTSC approved the Site with a recommendation "No Action Required at the Site."

Completed Area Name: PROJECT WIDE
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 05/31/2018

SCH:

Name: BANNING HIGH SCHOOL
Address: 100 WEST WESTWARD AVENUE
City,State,Zip: BANNING, CA 92220
Facility ID: 60002529
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 50.69
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Johnson Abraham
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Site Code: 404943
Assembly: , 42
Senate: , 23
Status: No Action Required
Status Date: 09/07/2017
Restricted Use: NO
Funding: School District
Latitude: 33.91809
Longitude: -116.8781
APN: NONE SPECIFIED
Past Use: NONE
Potential COC: NONE SPECIFIED, No Contaminants found
Confirmed COC: 31000-NO
Potential Description: NMA
Alias Name: 404943
Alias Type: Project Code (Site Code)
Alias Name: 60002529
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Document Type: Fieldwork
Completed Date: 09/07/2017

Completed Area Name: PROJECT WIDE
Completed Document Type: Phase 1
Completed Date: 09/07/2017
Comments: DTSC approved the Site with a recommendation "No Action Required at the Site."

**RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP (Continued)** **S113057762**

Completed Area Name: PROJECT WIDE
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 05/31/2018

HAZNET:

| | |
|---|---|
| Name: | RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP |
| Address: | 100 W WESTWARD AVE |
| City,State,Zip: | BANNING, CA 922200000 |
| Contact: | RON VITO |
| Telephone: | 9518266797 |
| Mailing Address: | PO BOX 868 |
| Year: | 2011 |
| Gepaid: | CAL000094323 |
| TSD EPA ID: | CAD982444481 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.016 |
| Year: | 2010 |
| Gepaid: | CAL000094323 |
| TSD EPA ID: | TXD982560294 |
| CA Waste Code: | 551 - Laboratory waste chemicals |
| Disposal Method: | - |
| Tons: | 0.0415 |
| Year: | 2006 |
| Gepaid: | CAL000094323 |
| TSD EPA ID: | CAD008364432 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.02 |
| Year: | 2006 |
| Gepaid: | CAL000094323 |
| TSD EPA ID: | CAD008364432 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H061 - Fuel Blending Prior To Energy Recovery At Another Site |
| Tons: | 0.015 |
| Year: | 2006 |
| Gepaid: | CAL000094323 |
| TSD EPA ID: | WAD991281767 |
| CA Waste Code: | 551 - Laboratory waste chemicals |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.005 |
| Year: | 2006 |
| Gepaid: | CAL000094323 |
| TSD EPA ID: | WAD991281767 |
| CA Waste Code: | 343 - Unspecified organic liquid mixture |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |

**RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP (Continued)** **S113057762**

Tons: 0.005

Year: 2006
Gepaid: CAL000094323
TSD EPA ID: CAD008364432
CA Waste Code: 181 - Other inorganic solid waste
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.005

Year: 2005
Gepaid: CAL000094323
TSD EPA ID: CAL000161743
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: R01 - Recycler
Tons: 0.1251

Additional Info:
Year: 2006
Gen EPA ID: CAL000094323

Shipment Date: 20061121
Creation Date: 3/30/2007 13:32:48
Receipt Date: 20061122
Manifest ID: 000500228JJK
Trans EPA ID: CAD008364432
Trans Name: RHO-CHEM
TSDF EPA ID: CAD008364432
Trans Name: RHO-CHEM CORPORATION
Waste Code Description: 331 - Off-specification, aged, or surplus organics
RCRA Code: D001
Meth Code: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons: 0.015
Waste Quantity: 30
Quantity Unit: P

Shipment Date: 20061121
Creation Date: 3/30/2007 13:32:48
Receipt Date: 20061122
Manifest ID: 000500228JJK
Trans EPA ID: CAD008364432
Trans Name: RHO-CHEM
TSDF EPA ID: CAD008364432
Trans Name: RHO-CHEM CORPORATION
Waste Code Description: 331 - Off-specification, aged, or surplus organics
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.02
Waste Quantity: 40
Quantity Unit: P

Shipment Date: 20061121
Creation Date: 10/30/2008 18:30:24
Receipt Date: 20061215
Manifest ID: 000500230JJK
Trans EPA ID: CAD008364432

**RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP (Continued)** **S113057762**

| | |
|---|---|
| Trans Name: | RHO-CHEM |
| Trans 2 EPA ID: | UTR000007708 |
| Trans 2 Name: | SLT EXPRESS |
| TSDF EPA ID: | WAD991281767 |
| Trans Name: | BURLINGTON ENVIRONMENTAL INC KENT FACILITY |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | P075 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.005 |
| Waste Quantity: | 10 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20061121 |
| Creation Date: | 10/30/2008 18:30:24 |
| Receipt Date: | 20061215 |
| Manifest ID: | 000500230JJK |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO-CHEM |
| Trans 2 EPA ID: | UTR000007708 |
| Trans 2 Name: | SLT EXPRESS |
| TSDF EPA ID: | WAD991281767 |
| Trans Name: | BURLINGTON ENVIRONMENTAL INC KENT FACILITY |
| Waste Code Description: | 551 - Laboratory waste chemicals 561 Detergent and soap |
| RCRA Code: | D003 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.005 |
| Waste Quantity: | 10 |
| Quantity Unit: | P |
| Additional Code 1: | D002 |
| | |
| Shipment Date: | 20061121 |
| Creation Date: | 3/30/2007 13:32:48 |
| Receipt Date: | 20061122 |
| Manifest ID: | 000500228JJK |
| Trans EPA ID: | CAD008364432 |
| Trans Name: | RHO-CHEM |
| TSDF EPA ID: | CAD008364432 |
| Trans Name: | RHO-CHEM CORPORATION |
| Waste Code Description: | 181 - Other inorganic solid waste Organics |
| RCRA Code: | D009 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.005 |
| Waste Quantity: | 10 |
| Quantity Unit: | P |

Additional Info:

| | |
|---|---|
| Year: | 2011 |
| Gen EPA ID: | CAL000094323 |
| | |
| Shipment Date: | 20110107 |
| Creation Date: | 2/23/2011 18:30:25 |
| Receipt Date: | 20110117 |
| Manifest ID: | 007572656JJK |
| Trans EPA ID: | CAR000206086 |

**RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP (Continued)** **S113057762**

| | |
|---|---|
| Trans Name: | NORTH STATE ENVIRONMENTAL |
| TSDF EPA ID: | CAD982444481 |
| Trans Name: | FILTER RECYCLING SERVICES INC |
| Waste Code Description: | 352 - Other organic solids |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.016 |
| Waste Quantity: | 32 |
| Quantity Unit: | P |

Additional Info:

| | |
|---|---|
| Year: | 2005 |
| Gen EPA ID: | CAL000094323 |
| Shipment Date: | 20051214 |
| Creation Date: | 1/4/2007 18:30:12 |
| Receipt Date: | 20051214 |
| Manifest ID: | 24774596 |
| Trans EPA ID: | CAR000007013 |
| Trans Name: | CLEARWATER ENVIRONMENTAL |
| TSDF EPA ID: | CAL000161743 |
| Trans Name: | ALVISO INDEPENDENT OIL |
| TSDF Alt EPA ID: | CAL000161743 |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.1251 |
| Waste Quantity: | 30 |
| Quantity Unit: | G |

Additional Info:

| | |
|---|---|
| Year: | 2010 |
| Gen EPA ID: | CAL000094323 |
| Shipment Date: | 20100107 |
| Creation Date: | 12/3/2012 22:15:55 |
| Manifest ID: | 007572655JJK |
| Trans EPA ID: | CAR000206086 |
| Trans Name: | NORTH STATE ENVIRONMENTAL |
| TSDF EPA ID: | TXD982560294 |
| Trans Name: | NSSI/SOURCES & SERVICES INC |
| Waste Code Description: | 551 - Laboratory waste chemicals 561 Detergent and soap |
| RCRA Code: | U239 |
| Meth Code: | - Not reported |
| Quantity Tons: | 0.014 |
| Waste Quantity: | 28 |
| Quantity Unit: | P |
| Additional Code 1: | U019 |
| Additional Code 2: | D018 |
| Additional Code 3: | D001 |
| Shipment Date: | 20100107 |
| Creation Date: | 12/3/2012 22:15:55 |
| Manifest ID: | 007572655JJK |
| Trans EPA ID: | CAR000206086 |
| Trans Name: | NORTH STATE ENVIRONMENTAL |
| TSDF EPA ID: | TXD982560294 |

**RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP (Continued)** **S113057762**

| | |
|---|---|
| Trans Name: | NSSI/SOURCES & SERVICES INC |
| Waste Code Description: | 551 - Laboratory waste chemicals 561 Detergent and soap |
| Meth Code: | - Not reported |
| Quantity Tons: | 0.0045 |
| Waste Quantity: | 9 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20100107 |
| Creation Date: | 12/3/2012 22:15:55 |
| Manifest ID: | 007572655JJK |
| Trans EPA ID: | CAR000206086 |
| Trans Name: | NORTH STATE ENVIRONMENTAL |
| TSDF EPA ID: | TXD982560294 |
| Trans Name: | NSSI/SOURCES & SERVICES INC |
| Waste Code Description: | 551 - Laboratory waste chemicals 561 Detergent and soap |
| RCRA Code: | D002 |
| Meth Code: | - Not reported |
| Quantity Tons: | 0.006 |
| Waste Quantity: | 12 |
| Quantity Unit: | P |
| | |
| Shipment Date: | 20100107 |
| Creation Date: | 12/3/2012 22:15:55 |
| Manifest ID: | 007572655JJK |
| Trans EPA ID: | CAR000206086 |
| Trans Name: | NORTH STATE ENVIRONMENTAL |
| TSDF EPA ID: | TXD982560294 |
| Trans Name: | NSSI/SOURCES & SERVICES INC |
| Waste Code Description: | 551 - Laboratory waste chemicals 561 Detergent and soap |
| RCRA Code: | U122 |
| Meth Code: | - Not reported |
| Quantity Tons: | 0.017 |
| Waste Quantity: | 34 |
| Quantity Unit: | P |
| Additional Code 1: | D001 |

CERS:

| | |
|---|---|
| Name: | BANNING HIGH SCHOOL |
| Address: | 100 WEST WESTWARD AVENUE |
| City,State,Zip: | BANNING, CA 92220 |
| Site ID: | 606171 |
| CERS ID: | 60002529 |
| CERS Description: | School Investigation |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Supervisor |
| Entity Name: | Shahir Haddad |
| Affiliation Phone: | , |
| | |
| Affiliation Type Desc: | Lead Project Manager |
| Entity Name: | Johnson Abraham |
| Affiliation Phone: | , |
| | |
| Name: | BANNING USD-BANNING HIGH SCHOOL |
| Address: | 100 W WESTWARD AVE |
| City,State,Zip: | BANNING, CA 92220 |

**RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP (Continued)** **S113057762**

Site ID: 420531
CERS ID: 10731409
CERS Description: Chemical Storage Facilities

Violations:

Site ID: 420531
Site Name: Banning USD-Banning High School
Violation Date: 11-30-2021
Citation: HSC 6.95 25508(a)(3 - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(3
Violation Description: Failure to report program data electronically.
Violation Notes: OBSERVATION: The owner/operator page submitted with the most recent hazardous materials business plan was incorrect. Specifically, the page submitted does not include Secondary Emergency Contact information CORRECTIVE ACTION: Owner/operator shall complete and submit an updated owner/operator page in the statewide information management system (e.g. CERS) at http://cers.calepa.ca.gov.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 420531
Site Name: Banning USD-Banning High School
Violation Date: 11-30-2021
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description: Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes: OBSERVATION: No training records observed/provided during inspection. CORRECTIVE ACTION: Owner/operator shall provide training to all employees. Documentation shall be retained and be made available for inspection for a minimum period of 3 years from the date of the training. Documentation can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 420531
Site Name: Banning USD-Banning High School
Violation Date: 04-01-2021
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.
Violation Notes: Returned to compliance on 04/15/2021.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 420531
Site Name: Banning USD-Banning High School
Violation Date: 11-30-2021
Citation: HSC 6.95 25505(c) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(c)

**RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP (Continued)** **S113057762**

| | |
|---|---|
| Violation Description: | Failure to have a business plan readily available to personnel of the business or the unified program facility with responsibilities for emergency response or training. |
| Violation Notes: | OBSERVATION: Facility personnel were unable to access/locate a current copy of the business plan during the inspection. CORRECTIVE ACTION: Owner/operator shall ensure a current copy of the hazardous materials business plan is readily available on site at all times when the facility is staffed. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 420531 |
| Site Name: | Banning USD-Banning High School |
| Violation Date: | 11-30-2021 |
| Citation: | Un-Specified |
| Violation Description: | Business Plan Program - Operations/Maintenance - General Local Ordinance |
| Violation Notes: | OBSERVATION: Required NFPA-704 signs were not posted by generators. CORRECTIVE ACTION: Owner/operator shall research chemical safety data sheets and post proper NFPA-704 signs. Pictures can be emailed to: rsgarcia@rivco.org, faxed to: 951-791-1778, or I can stop by to review in-person. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 420531 |
| Site Name: | Banning USD-Banning High School |
| Violation Date: | 11-30-2021 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities. |
| Violation Notes: | OBSERVATION: An incomplete Business Plan was submitted into the statewide information management system. Specifically, Business Owner/Operator Identification page is missing Secondary Emergency contact informaiton. CORRECTIVE ACTION: Owner/operator shall submit all required Business Plan sections into the statewide information management system (e.g. CERS) at http://cers.calepa.ca.gov. |
| Violation Division: | Riverside County Department of Env Health |
| Violation Program: | HMRRP |
| Violation Source: | CERS, |
| | |
| Site ID: | 420531 |
| Site Name: | Banning USD-Banning High School |
| Violation Date: | 11-30-2021 |
| Citation: | HSC 6.95 25508(a)(3) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(3) |
| Violation Description: | Failure to complete and electronically submit a site map with all required content. |
| Violation Notes: | OBSERVATION: Site map submitted in CERS was missing the location of the back-up generator located near the stadium. CORRECTIVE ACTION: Owner/operator shall complete an annotated site map which includes all elements outlined in CA Health and Safety Code: north orientation, loading areas, internal roads, adjacent streets, storm and sewer |

**RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP (Continued)** **S113057762**

drain, access and exit points, emergency shut offs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment. Submit site map into the statewide information management system (e.g. CERS) at http://cers.calepa.ca.gov.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 420531
Site Name: Banning USD-Banning High School
Violation Date: 11-30-2021
Citation: HSC 6.95 25508(a)(3) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(3)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: OBSERVATION: The most recent business plan submission in the statewide information management system (CERS) failed to account for both back-up generators found on-site. Current inventory page for diesel accounts only for generator located near multi-purpose room/electric room. CORRECTIVE ACTION: Owner/operator shall complete a chemical inventory page for all reportable hazardous materials on site and submit to the statewide information management system (e.g. CERS) at http://cers.calepa.ca.gov.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS,

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 12-05-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 04-01-2021
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-30-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Facility is a high school with pool chemicals, lab chemicals, and diesel fuel on-site.
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Coordinates:

**RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP (Continued)** **S113057762**

| | |
|---|---|
| Site ID: | 420531 |
| Facility Name: | Banning USD-Banning High School |
| Env Int Type Code: | HMBP |
| Program ID: | 10731409 |
| Ref Point Type Desc: | Center of a facility or station., |
| Latitude: | 33.918040 |
| Longitude: | -116.877850 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | Riverside Cnty Env Health |
| Affiliation Address: | 4065 County Circle Drive, Room 104 |
| Affiliation City: | Riverside |
| Affiliation State: | CA |
| Affiliation Zip: | 92503 |
| Affiliation Phone: | (951) 358-5055, |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Cornell Williams |
| Affiliation Address: | 161 W Williams Street |
| Affiliation City: | Banning |
| Affiliation State: | CA |
| Affiliation Zip: | 92220 |
| Affiliation Phone: | , |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Cornell Williams |
| Entity Title: | Director of MOT |
| Affiliation Phone: | , |
| | |
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Banning USD |
| Affiliation Address: | 161 W Williams Street |
| Affiliation City: | Banning |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 92220 |
| Affiliation Phone: | (951) 922-0278, |
| | |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | Banning Unified School Dist-MOT |
| Affiliation Phone: | , |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Leslie Heaviside |
| Affiliation Phone: | , |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | Matt Valdivia |
| Affiliation Phone: | (951) 922-0285, |
| | |
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Affiliation Address: | 100 W Westward Ave |
| Affiliation City: | Banning |
| Affiliation State: | CA |
| Affiliation Zip: | 92220 |

**RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP (Continued)** **S113057762**

Affiliation Phone: ,

HWTS:

| | |
|---|---|
| Name: | RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP |
| Address: | 100 W WESTWARD AVE |
| City,State,Zip: | BANNING, CA 92220 |
| EPA ID: | CAL000094323 |
| Inactive Date: | 06/30/2014 |
| Create Date: | 10/16/1992 |
| Mailing Address: | PO BOX 868 |
| Mailing City,State,Zip: | RIVERSIDE, CA 92502 |
| Owner Name: | RIVERSIDE COUNTY SUPER OF SCHO |
| Owner Address: | 3939 13TH ST |
| Owner City,State,Zip: | RIVERSIDE, CA 925013505 |
| Contact Name: | RON VITO |
| Contact Address: | PO BOX 868 |
| City,State,Zip: | RIVERSIDE, CA 92502 |
| Facility Status: | Inactive |
| Facility Type: | PERMANENT |
| Category: | STATE |
| Latitude: | 33.918101 |
| Longitude: | -116.878129 |

NAICS:

| | |
|---|---|
| EPA ID: | CAL000094323 |
| Create Date: | 2002-03-14 16:36:27.000 |
| NAICS Code: | 61111 |
| NAICS Description: | Elementary and Secondary Schools |
| Issued EPA ID Date: | 1992-10-16 00:00:00 |
| Inactive Date: | 2014-06-30 00:00:00 |
| Facility Name: | RIVERSIDE COUNTY OFFICE OF EDUCATION,BANNING HS-ROP |
| Facility Address: | 100 W WESTWARD AVE |
| Facility City: | BANNING |
| Facility State: | CA |
| Facility Zip: | 922200000 |

Count: 6 records. ORPHAN SUMMARY

| City | EDR ID | Site Name | Site Address | Zip | Database(s) |
|---|---|---|---|---|---|
| BANNING | S121622301 | BANNING ADJACENT PROPERTY | 300 BLOCK OF EAST LINCOLN ST | | CIWQS |
| BANNING | S121622313 | BANNING SUBSTATION EXTENSION | 300 BLOCK OF E LINCOLN ST | 92220 | CIWQS |
| BANNING | S128658795 | BANNING | GILMAN STREET AND WYTE WAY | 92220 | NPDES |
| BANNING | S112942850 | SOUTHERN CALIFORNIA EDISON CO, BAN | LAT -116.886304, LNG 33.9555 L | 92220 | HAZNET, HWTS |
| BANNING | 1016424438 | SCE BANNING SUBSTATION | LINCOLN ST 1/4 MILE EAST OF SA | 92220 | FINDS |
| RIVERSIDE COUNTY | 1023264791 | FRENCH VALLEY INDUSTRIAL CENTER | NORTHWEST CORNER OF INTERSECTI | | FINDS |

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

| St | Acronym | Full Name | Government Agency | Gov Date | Arvl. Date | Active Date |
|---|---|---|---|---|---|---|
| CA | AQUEOUS FOAM | Former Fire Training Facility Assessments Listing | State Water Resources Control Board | 02/20/2020 | 12/10/2021 | 02/25/2022 |
| CA | AST | Aboveground Petroleum Storage Tank Facilities | California Environmental Protection Agency | 07/06/2016 | 07/12/2016 | 09/19/2016 |
| CA | BROWNFIELDS | Considered Brownfieds Sites Listing | State Water Resources Control Board | 03/21/2022 | 03/21/2022 | 06/14/2022 |
| CA | CA BOND EXP. PLAN | Bond Expenditure Plan | Department of Health Services | 01/01/1989 | 07/27/1994 | 08/02/1994 |
| CA | CA FID UST | Facility Inventory Database | California Environmental Protection Agency | 10/31/1994 | 09/05/1995 | 09/29/1995 |
| CA | CDL | Clandestine Drug Labs | Department of Toxic Substances Control | 12/31/2019 | 01/20/2021 | 04/08/2021 |
| CA | CERS | CalEPA Regulated Site Portal Data | California Environmental Protection Agency | 04/18/2022 | 04/19/2022 | 07/12/2022 |
| CA | CERS HAZ WASTE | CERS HAZ WASTE | CalEPA | 04/18/2022 | 04/19/2022 | 07/12/2022 |
| CA | CERS TANKS | California Environmental Reporting System (CERS) Tanks | California Environmental Protection Agency | 04/18/2022 | 04/19/2022 | 07/12/2022 |
| CA | CHMIRS | California Hazardous Material Incident Report System | Office of Emergency Services | 04/03/2022 | 04/19/2022 | 07/12/2022 |
| CA | CIWQS | California Integrated Water Quality System | State Water Resources Control Board | 02/28/2022 | 02/28/2022 | 05/25/2022 |
| CA | CORTESE | "Cortese" Hazardous Waste & Substances Sites List | CAL EPA/Office of Emergency Information | 03/21/2022 | 03/21/2022 | 06/14/2022 |
| CA | CPS-SLIC | Statewide SLIC Cases (GEOTRACKER) | State Water Resources Control Board | 05/23/2022 | 05/23/2022 | 05/24/2022 |
| CA | CUPA LIVERMORE-PLEASANTON | CUPA Facility Listing | Livermore-Pleasanton Fire Department | 12/07/2021 | 05/09/2022 | 05/17/2022 |
| CA | DEED | Deed Restriction Listing | DTSC and SWRCB | 02/28/2022 | 02/28/2022 | 05/25/2022 |
| CA | DRYCLEAN AVAQMD | Antelope Valley Air Quality Management District Drycleaner L | Antelope Valley Air Quality Management Distri | 02/24/2022 | 02/25/2022 | 05/18/2022 |
| CA | DRYCLEAN SOUTH COAST | South Coast Air Quality Management District Drycleaner Listi | South Coast Air Quality Management District | 02/17/2022 | 02/24/2022 | 05/18/2022 |
| CA | DRYCLEANERS | Cleaner Facilities | Department of Toxic Substance Control | 08/27/2021 | 09/01/2021 | 11/19/2021 |
| CA | EMI | Emissions Inventory Data | California Air Resources Board | 12/31/2019 | 06/10/2021 | 08/27/2021 |
| CA | ENF | Enforcement Action Listing | State Water Resoruces Control Board | 04/12/2022 | 04/19/2022 | 05/31/2022 |
| CA | ENVIROSTOR | EnviroStor Database | Department of Toxic Substances Control | 04/25/2022 | 04/26/2022 | 07/15/2022 |
| CA | Financial Assurance 1 | Financial Assurance Information Listing | Department of Toxic Substances Control | 04/19/2022 | 04/29/2022 | 07/15/2022 |
| CA | Financial Assurance 2 | Financial Assurance Information Listing | California Integrated Waste Management Board | 02/23/2022 | 02/24/2022 | 05/18/2022 |
| CA | HAULERS | Registered Waste Tire Haulers Listing | Integrated Waste Management Board | 02/15/2022 | 02/24/2022 | 05/25/2022 |
| CA | HAZNET | Facility and Manifest Data | California Environmental Protection Agency | 12/31/2019 | 04/15/2020 | 07/02/2020 |
| CA | HIST CAL-SITES | Calsites Database | Department of Toxic Substance Control | 08/08/2005 | 08/03/2006 | 08/24/2006 |
| CA | HIST CORTESE | Hazardous Waste & Substance Site List | Department of Toxic Substances Control | 04/01/2001 | 01/22/2009 | 04/08/2009 |
| CA | HIST UST | Hazardous Substance Storage Container Database | State Water Resources Control Board | 10/15/1990 | 01/25/1991 | 02/12/1991 |
| CA | HWP | EnviroStor Permitted Facilities Listing | Department of Toxic Substances Control | 05/16/2022 | 05/17/2022 | 08/03/2022 |
| CA | HWT | Registered Hazardous Waste Transporter Database | Department of Toxic Substances Control | 04/05/2022 | 04/05/2022 | 06/27/2022 |
| CA | HWTS | Hazardous Waste Tracking System | Department of Toxic Substances Control | 04/05/2022 | 04/05/2022 | 04/26/2022 |
| CA | ICE | ICE | Department of Toxic Subsances Control | 05/16/2022 | 05/17/2022 | 08/03/2022 |
| CA | LDS | Land Disposal Sites Listing (GEOTRACKER) | State Water Qualilty Control Board | 05/23/2022 | 05/23/2022 | 05/24/2022 |
| CA | LIENS | Environmental Liens Listing | Department of Toxic Substances Control | 02/24/2022 | 02/25/2022 | 03/09/2022 |
| CA | LUST | Leaking Underground Fuel Tank Report (GEOTRACKER) | State Water Resources Control Board | 05/23/2022 | 05/23/2022 | 05/24/2022 |
| CA | LUST REG 1 | Active Toxic Site Investigation | California Regional Water Quality Control Boa | 02/01/2001 | 02/28/2001 | 03/29/2001 |
| CA | LUST REG 2 | Fuel Leak List | California Regional Water Quality Control Boa | 09/30/2004 | 10/20/2004 | 11/19/2004 |
| CA | LUST REG 3 | Leaking Underground Storage Tank Database | California Regional Water Quality Control Boa | 05/19/2003 | 05/19/2003 | 06/02/2003 |
| CA | LUST REG 4 | Underground Storage Tank Leak List | California Regional Water Quality Control Boa | 09/07/2004 | 09/07/2004 | 10/12/2004 |
| CA | LUST REG 5 | Leaking Underground Storage Tank Database | California Regional Water Quality Control Boa | 07/01/2008 | 07/22/2008 | 07/31/2008 |
| CA | LUST REG 6L | Leaking Underground Storage Tank Case Listing | California Regional Water Quality Control Boa | 09/09/2003 | 09/10/2003 | 10/07/2003 |
| CA | LUST REG 6V | Leaking Underground Storage Tank Case Listing | California Regional Water Quality Control Boa | 06/07/2005 | 06/07/2005 | 06/29/2005 |
| CA | LUST REG 7 | Leaking Underground Storage Tank Case Listing | California Regional Water Quality Control Boa | 02/26/2004 | 02/26/2004 | 03/24/2004 |
| CA | LUST REG 8 | Leaking Underground Storage Tanks | California Regional Water Quality Control Boa | 02/14/2005 | 02/15/2005 | 03/28/2005 |
| CA | LUST REG 9 | Leaking Underground Storage Tank Report | California Regional Water Quality Control Boa | 03/01/2001 | 04/23/2001 | 05/21/2001 |
| CA | MCS | Military Cleanup Sites Listing (GEOTRACKER) | State Water Resources Control Board | 05/23/2022 | 05/23/2022 | 05/24/2022 |
| CA | MILITARY PRIV SITES | Military Privatized Sites (GEOTRACKER) | State Water Resources Control Board | 05/23/2022 | 05/23/2022 | 06/02/2022 |

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

| St | Acronym | Full Name | Government Agency | Gov Date | Arvl. Date | Active Date |
|---|---|---|---|---|---|---|
| CA | MILITARY UST SITES | Military UST Sites (GEOTRACKER) | State Water Resources Control Board | 05/23/2022 | 05/23/2022 | 06/02/2022 |
| CA | MINES | Mines Site Location Listing | Department of Conservation | 03/07/2022 | 03/08/2022 | 06/01/2022 |
| CA | MWMP | Medical Waste Management Program Listing | Department of Public Health | 02/17/2022 | 02/28/2022 | 05/25/2022 |
| CA | NON-CASE INFO | Non-Case Information Sites (GEOTRACKER) | State Water Resources Control Board | 05/23/2022 | 05/23/2022 | 06/02/2022 |
| CA | NOTIFY 65 | Proposition 65 Records | State Water Resources Control Board | 03/11/2022 | 03/15/2022 | 06/08/2022 |
| CA | NPDES | NPDES Permits Listing | State Water Resources Control Board | 05/09/2022 | 05/09/2022 | 07/29/2022 |
| CA | OTHER OIL GAS | Other Oil & Gas Projects Sites (GEOTRACKER) | State Water Resources Control Board | 05/23/2022 | 05/23/2022 | 06/02/2022 |
| CA | PEST LIC | Pesticide Regulation Licenses Listing | Department of Pesticide Regulation | 02/28/2022 | 02/28/2022 | 05/25/2022 |
| CA | PFAS | PFAS Contamination Site Location Listing | State Water Resources Control Board | 03/07/2022 | 03/08/2022 | 06/02/2022 |
| CA | PROC | Certified Processors Database | Department of Conservation | 03/07/2022 | 03/08/2022 | 06/02/2022 |
| CA | PROD WATER PONDS | Produced Water Ponds Sites (GEOTRACKER) | State Water Resources Control Board | 05/23/2022 | 05/23/2022 | 06/02/2022 |
| CA | PROJECT | Project Sites (GEOTRACKER) | State Water Resources Control Board | 05/23/2022 | 05/23/2022 | 06/02/2022 |
| CA | RESPONSE | State Response Sites | Department of Toxic Substances Control | 04/25/2022 | 04/26/2022 | 07/15/2022 |
| CA | RGA LF | Recovered Government Archive Solid Waste Facilities List | Department of Resources Recycling and Recover | | 07/01/2013 | 01/13/2014 |
| CA | RGA LUST | Recovered Government Archive Leaking Underground Storage Tan | State Water Resources Control Board | | 07/01/2013 | 12/30/2013 |
| CA | SAMPLING POINT | Sampling Point ? Public Sites (GEOTRACKER) | State Water Resources Control Board | 05/23/2022 | 05/23/2022 | 06/02/2022 |
| CA | SAN FRANCISCO AST | Aboveground Storage Tank Site Listing | San Francisco County Department of Public Hea | 05/05/2022 | 05/06/2022 | 07/21/2022 |
| CA | SCH | School Property Evaluation Program | Department of Toxic Substances Control | 04/25/2022 | 04/26/2022 | 07/15/2022 |
| CA | SLIC REG 1 | Active Toxic Site Investigations | California Regional Water Quality Control Boa | 04/03/2003 | 04/07/2003 | 04/25/2003 |
| CA | SLIC REG 2 | Spills, Leaks, Investigation & Cleanup Cost Recovery Listing | Regional Water Quality Control Board San Fran | 09/30/2004 | 10/20/2004 | 11/19/2004 |
| CA | SLIC REG 3 | Spills, Leaks, Investigation & Cleanup Cost Recovery Listing | California Regional Water Quality Control Boa | 05/18/2006 | 05/18/2006 | 06/15/2006 |
| CA | SLIC REG 4 | Spills, Leaks, Investigation & Cleanup Cost Recovery Listing | Region Water Quality Control Board Los Angele | 11/17/2004 | 11/18/2004 | 01/04/2005 |
| CA | SLIC REG 5 | Spills, Leaks, Investigation & Cleanup Cost Recovery Listing | Regional Water Quality Control Board Central | 04/01/2005 | 04/05/2005 | 04/21/2005 |
| CA | SLIC REG 6L | SLIC Sites | California Regional Water Quality Control Boa | 09/07/2004 | 09/07/2004 | 10/12/2004 |
| CA | SLIC REG 6V | Spills, Leaks, Investigation & Cleanup Cost Recovery Listing | Regional Water Quality Control Board, Victorv | 05/24/2005 | 05/25/2005 | 06/16/2005 |
| CA | SLIC REG 7 | SLIC List | California Regional Quality Control Board, Co | 11/24/2004 | 11/29/2004 | 01/04/2005 |
| CA | SLIC REG 8 | Spills, Leaks, Investigation & Cleanup Cost Recovery Listing | California Region Water Quality Control Board | 04/03/2008 | 04/03/2008 | 04/14/2008 |
| CA | SLIC REG 9 | Spills, Leaks, Investigation & Cleanup Cost Recovery Listing | California Regional Water Quality Control Boa | 09/10/2007 | 09/11/2007 | 09/28/2007 |
| CA | SPILLS 90 | SPILLS90 data from FirstSearch | FirstSearch | 06/06/2012 | 01/03/2013 | 02/22/2013 |
| CA | SWEEPS UST | SWEEPS UST Listing | State Water Resources Control Board | 06/01/1994 | 07/07/2005 | 08/11/2005 |
| CA | SWF/LF (SWIS) | Solid Waste Information System | Department of Resources Recycling and Recover | 05/09/2022 | 05/09/2022 | 07/29/2022 |
| CA | SWRCY | Recycler Database | Department of Conservation | 03/07/2022 | 03/08/2022 | 06/02/2022 |
| CA | TOXIC PITS | Toxic Pits Cleanup Act Sites | State Water Resources Control Board | 07/01/1995 | 08/30/1995 | 09/26/1995 |
| CA | UIC | UIC Listing | Deaprtment of Conservation | 03/07/2022 | 03/08/2022 | 06/02/2022 |
| CA | UIC GEO | Underground Injection Control Sites (GEOTRACKER) | State Water Resource Control Board | 05/23/2022 | 05/23/2022 | 06/02/2022 |
| CA | UST | Active UST Facilities | SWRCB | 03/07/2022 | 03/08/2022 | 06/02/2022 |
| CA | UST CLOSURE | Proposed Closure of Underground Storage Tank (UST) Cases | State Water Resources Control Board | 03/07/2022 | 03/08/2022 | 06/03/2022 |
| CA | VCP | Voluntary Cleanup Program Properties | Department of Toxic Substances Control | 04/25/2022 | 04/26/2022 | 07/15/2022 |
| CA | WASTEWATER PITS | Oil Wastewater Pits Listing | RWQCB, Central Valley Region | 02/11/2021 | 07/01/2021 | 09/29/2021 |
| CA | WDR | Waste Discharge Requirements Listing | State Water Resources Control Board | 03/07/2022 | 03/08/2022 | 06/03/2022 |
| CA | WDS | Waste Discharge System | State Water Resources Control Board | 06/19/2007 | 06/20/2007 | 06/29/2007 |
| CA | WELL STIM PROJ | Well Stimulation Project (GEOTRACKER) | State Water Resources Control Board | 05/23/2022 | 05/23/2022 | 06/02/2022 |
| CA | WIP | Well Investigation Program Case List | Los Angeles Water Quality Control Board | 07/03/2009 | 07/21/2009 | 08/03/2009 |
| CA | WMUDS/SWAT | Waste Management Unit Database | State Water Resources Control Board | 04/01/2000 | 04/10/2000 | 05/10/2000 |
| US | 2020 COR ACTION | 2020 Corrective Action Program List | Environmental Protection Agency | 09/30/2017 | 05/08/2018 | 07/20/2018 |
| US | ABANDONED MINES | Abandoned Mines | Department of Interior | 03/10/2022 | 03/10/2022 | 06/14/2022 |
| US | BRS | Biennial Reporting System | EPA/NTIS | 12/31/2019 | 03/02/2022 | 03/25/2022 |

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

| St | Acronym | Full Name | Government Agency | Gov Date | Arvl. Date | Active Date |
|---|---|---|---|---|---|---|
| US | COAL ASH DOE | Steam-Electric Plant Operation Data | Department of Energy | 12/31/2020 | 11/30/2021 | 02/22/2022 |
| US | COAL ASH EPA | Coal Combustion Residues Surface Impoundments List | Environmental Protection Agency | 01/12/2017 | 03/05/2019 | 11/11/2019 |
| US | CONSENT | Superfund (CERCLA) Consent Decrees | Department of Justice, Consent Decree Library | 03/31/2022 | 04/14/2022 | 07/12/2022 |
| US | CORRACTS | Corrective Action Report | EPA | 06/20/2022 | 06/21/2022 | 06/28/2022 |
| US | DEBRIS REGION 9 | Torres Martinez Reservation Illegal Dump Site Locations | EPA, Region 9 | 01/12/2009 | 05/07/2009 | 09/21/2009 |
| US | DOCKET HWC | Hazardous Waste Compliance Docket Listing | Environmental Protection Agency | 05/06/2021 | 05/21/2021 | 08/11/2021 |
| US | DOD | Department of Defense Sites | USGS | 06/07/2021 | 07/13/2021 | 03/09/2022 |
| US | DOT OPS | Incident and Accident Data | Department of Transporation, Office of Pipeli | 01/02/2020 | 01/28/2020 | 04/17/2020 |
| US | Delisted NPL | National Priority List Deletions | EPA | 04/27/2022 | 05/05/2022 | 05/31/2022 |
| US | ECHO | Enforcement & Compliance History Information | Environmental Protection Agency | 04/02/2022 | 04/05/2022 | 06/28/2022 |
| US | EDR Hist Auto | EDR Exclusive Historical Auto Stations | EDR, Inc. | | | |
| US | EDR Hist Cleaner | EDR Exclusive Historical Cleaners | EDR, Inc. | | | |
| US | EDR MGP | EDR Proprietary Manufactured Gas Plants | EDR, Inc. | | | |
| US | EPA WATCH LIST | EPA WATCH LIST | Environmental Protection Agency | 08/30/2013 | 03/21/2014 | 06/17/2014 |
| US | ERNS | Emergency Response Notification System | National Response Center, United States Coast | 06/14/2022 | 06/15/2022 | 06/21/2022 |
| US | FEDERAL FACILITY | Federal Facility Site Information listing | Environmental Protection Agency | 05/25/2021 | 06/24/2021 | 09/20/2021 |
| US | FEDLAND | Federal and Indian Lands | U.S. Geological Survey | 04/02/2018 | 04/11/2018 | 11/06/2019 |
| US | FEMA UST | Underground Storage Tank Listing | FEMA | 10/14/2021 | 11/05/2021 | 02/01/2022 |
| US | FINDS | Facility Index System/Facility Registry System | EPA | 05/13/2022 | 05/18/2022 | 05/31/2022 |
| US | FTTS | FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu | EPA/Office of Prevention, Pesticides and Toxi | 04/09/2009 | 04/16/2009 | 05/11/2009 |
| US | FTTS INSP | FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu | EPA | 04/09/2009 | 04/16/2009 | 05/11/2009 |
| US | FUDS | Formerly Used Defense Sites | U.S. Army Corps of Engineers | 05/11/2022 | 05/17/2022 | 07/29/2022 |
| US | FUELS PROGRAM | EPA Fuels Program Registered Listing | EPA | 05/16/2022 | 05/17/2022 | 07/29/2022 |
| US | FUSRAP | Formerly Utilized Sites Remedial Action Program | Department of Energy | 07/26/2021 | 07/27/2021 | 10/22/2021 |
| US | HIST FTTS | FIFRA/TSCA Tracking System Administrative Case Listing | Environmental Protection Agency | 10/19/2006 | 03/01/2007 | 04/10/2007 |
| US | HIST FTTS INSP | FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis | Environmental Protection Agency | 10/19/2006 | 03/01/2007 | 04/10/2007 |
| US | HMIRS | Hazardous Materials Information Reporting System | U.S. Department of Transportation | 03/21/2022 | 03/21/2022 | 06/14/2022 |
| US | ICIS | Integrated Compliance Information System | Environmental Protection Agency | 11/18/2016 | 11/23/2016 | 02/10/2017 |
| US | IHS OPEN DUMPS | Open Dumps on Indian Land | Department of Health & Human Serivces, Indian | 04/01/2014 | 08/06/2014 | 01/29/2015 |
| US | INDIAN LUST R1 | Leaking Underground Storage Tanks on Indian Land | EPA Region 1 | 04/28/2021 | 06/11/2021 | 09/07/2021 |
| US | INDIAN LUST R10 | Leaking Underground Storage Tanks on Indian Land | EPA Region 10 | 10/12/2021 | 11/15/2021 | 02/08/2022 |
| US | INDIAN LUST R4 | Leaking Underground Storage Tanks on Indian Land | EPA Region 4 | 05/28/2021 | 06/22/2021 | 09/20/2021 |
| US | INDIAN LUST R5 | Leaking Underground Storage Tanks on Indian Land | EPA, Region 5 | 10/12/2021 | 11/15/2021 | 02/08/2022 |
| US | INDIAN LUST R6 | Leaking Underground Storage Tanks on Indian Land | EPA Region 6 | 10/12/2021 | 11/15/2021 | 02/08/2022 |
| US | INDIAN LUST R7 | Leaking Underground Storage Tanks on Indian Land | EPA Region 7 | 10/12/2021 | 11/15/2021 | 02/08/2022 |
| US | INDIAN LUST R8 | Leaking Underground Storage Tanks on Indian Land | EPA Region 8 | 10/12/2021 | 11/15/2021 | 02/08/2022 |
| US | INDIAN LUST R9 | Leaking Underground Storage Tanks on Indian Land | Environmental Protection Agency | 10/12/2021 | 11/15/2021 | 02/08/2022 |
| US | INDIAN ODI | Report on the Status of Open Dumps on Indian Lands | Environmental Protection Agency | 12/31/1998 | 12/03/2007 | 01/24/2008 |
| US | INDIAN RESERV | Indian Reservations | USGS | 12/31/2014 | 07/14/2015 | 01/10/2017 |
| US | INDIAN UST R1 | Underground Storage Tanks on Indian Land | EPA, Region 1 | 10/14/2021 | 11/15/2021 | 02/08/2022 |
| US | INDIAN UST R10 | Underground Storage Tanks on Indian Land | EPA Region 10 | 10/12/2021 | 11/15/2021 | 02/08/2022 |
| US | INDIAN UST R4 | Underground Storage Tanks on Indian Land | EPA Region 4 | 05/28/2021 | 06/22/2021 | 09/20/2021 |
| US | INDIAN UST R5 | Underground Storage Tanks on Indian Land | EPA Region 5 | 04/06/2021 | 06/11/2021 | 09/07/2021 |
| US | INDIAN UST R6 | Underground Storage Tanks on Indian Land | EPA Region 6 | 10/12/2021 | 11/15/2021 | 02/08/2022 |
| US | INDIAN UST R7 | Underground Storage Tanks on Indian Land | EPA Region 7 | 10/12/2021 | 11/15/2021 | 02/08/2022 |
| US | INDIAN UST R8 | Underground Storage Tanks on Indian Land | EPA Region 8 | 10/12/2021 | 11/15/2021 | 02/08/2022 |
| US | INDIAN UST R9 | Underground Storage Tanks on Indian Land | EPA Region 9 | 10/12/2021 | 11/15/2021 | 02/08/2022 |

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

| St | Acronym | Full Name | Government Agency | Gov Date | Arvl. Date | Active Date |
|---|---|---|---|---|---|---|
| US | INDIAN VCP R1 | Voluntary Cleanup Priority Listing | EPA, Region 1 | 07/27/2015 | 09/29/2015 | 02/18/2016 |
| US | INDIAN VCP R7 | Voluntary Cleanup Priority Lisitng | EPA, Region 7 | 03/20/2008 | 04/22/2008 | 05/19/2008 |
| US | LEAD SMELTER 1 | Lead Smelter Sites | Environmental Protection Agency | 04/27/2022 | 05/05/2022 | 05/31/2022 |
| US | LEAD SMELTER 2 | Lead Smelter Sites | American Journal of Public Health | 04/05/2001 | 10/27/2010 | 12/02/2010 |
| US | LIENS 2 | CERCLA Lien Information | Environmental Protection Agency | 04/27/2022 | 05/05/2022 | 05/31/2022 |
| US | LUCIS | Land Use Control Information System | Department of the Navy | 05/16/2022 | 05/19/2022 | 07/29/2022 |
| US | MINES MRDS | Mineral Resources Data System | USGS | 04/06/2018 | 10/21/2019 | 10/24/2019 |
| US | MINES VIOLATIONS | MSHA Violation Assessment Data | DOL, Mine Safety & Health Admi | 03/21/2022 | 03/22/2022 | 03/25/2022 |
| US | MLTS | Material Licensing Tracking System | Nuclear Regulatory Commission | 03/11/2022 | 03/15/2022 | 06/14/2022 |
| US | NPL | National Priority List | EPA | 04/27/2022 | 05/05/2022 | 05/31/2022 |
| US | NPL LIENS | Federal Superfund Liens | EPA | 10/15/1991 | 02/02/1994 | 03/30/1994 |
| US | ODI | Open Dump Inventory | Environmental Protection Agency | 06/30/1985 | 08/09/2004 | 09/17/2004 |
| US | PADS | PCB Activity Database System | EPA | 01/20/2022 | 01/20/2022 | 03/25/2022 |
| US | PCB TRANSFORMER | PCB Transformer Registration Database | Environmental Protection Agency | 09/13/2019 | 11/06/2019 | 02/10/2020 |
| US | PCS | Permit Compliance System | EPA, Office of Water | 07/14/2011 | 08/05/2011 | 09/29/2011 |
| US | PCS ENF | Enforcement data | EPA | 12/31/2014 | 02/05/2015 | 03/06/2015 |
| US | PCS INACTIVE | Listing of Inactive PCS Permits | EPA | 11/05/2014 | 01/06/2015 | 05/06/2015 |
| US | PRP | Potentially Responsible Parties | EPA | 01/25/2022 | 02/03/2022 | 02/25/2022 |
| US | Proposed NPL | Proposed National Priority List Sites | EPA | 04/27/2022 | 05/05/2022 | 05/31/2022 |
| US | RAATS | RCRA Administrative Action Tracking System | EPA | 04/17/1995 | 07/03/1995 | 08/07/1995 |
| US | RADINFO | Radiation Information Database | Environmental Protection Agency | 07/01/2019 | 07/01/2019 | 09/23/2019 |
| US | RCRA NonGen / NLR | RCRA - Non Generators / No Longer Regulated | Environmental Protection Agency | 06/20/2022 | 06/21/2022 | 06/28/2022 |
| US | RCRA-LQG | RCRA - Large Quantity Generators | Environmental Protection Agency | 06/20/2022 | 06/21/2022 | 06/28/2022 |
| US | RCRA-SQG | RCRA - Small Quantity Generators | Environmental Protection Agency | 06/20/2022 | 06/21/2022 | 06/28/2022 |
| US | RCRA-TSDF | RCRA - Treatment, Storage and Disposal | Environmental Protection Agency | 06/20/2022 | 06/21/2022 | 06/28/2022 |
| US | RCRA-VSQG | RCRA - Very Small Quantity Generators (Formerly Conditionall | Environmental Protection Agency | 06/20/2022 | 06/21/2022 | 06/28/2022 |
| US | RMP | Risk Management Plans | Environmental Protection Agency | 04/27/2022 | 05/04/2022 | 05/10/2022 |
| US | ROD | Records Of Decision | EPA | 04/27/2022 | 05/05/2022 | 05/31/2022 |
| US | SCRD DRYCLEANERS | State Coalition for Remediation of Drycleaners Listing | Environmental Protection Agency | 01/01/2017 | 02/03/2017 | 04/07/2017 |
| US | SEMS | Superfund Enterprise Management System | EPA | 04/27/2022 | 05/05/2022 | 05/31/2022 |
| US | SEMS-ARCHIVE | Superfund Enterprise Management System Archive | EPA | 04/27/2022 | 05/05/2022 | 05/31/2022 |
| US | SSTS | Section 7 Tracking Systems | EPA | 07/18/2022 | 07/18/2022 | 07/29/2022 |
| US | TRIS | Toxic Chemical Release Inventory System | EPA | 12/31/2018 | 08/14/2020 | 11/04/2020 |
| US | TSCA | Toxic Substances Control Act | EPA | 12/31/2016 | 06/17/2020 | 09/10/2020 |
| US | UMTRA | Uranium Mill Tailings Sites | Department of Energy | 08/30/2019 | 11/15/2019 | 01/28/2020 |
| US | US AIRS (AFS) | Aerometric Information Retrieval System Facility Subsystem ( | EPA | 10/12/2016 | 10/26/2016 | 02/03/2017 |
| US | US AIRS MINOR | Air Facility System Data | EPA | 10/12/2016 | 10/26/2016 | 02/03/2017 |
| US | US BROWNFIELDS | A Listing of Brownfields Sites | Environmental Protection Agency | 02/23/2022 | 03/10/2022 | 03/10/2022 |
| US | US CDL | Clandestine Drug Labs | Drug Enforcement Administration | 04/30/2022 | 05/24/2022 | 07/29/2022 |
| US | US ENG CONTROLS | Engineering Controls Sites List | Environmental Protection Agency | 05/16/2022 | 05/24/2022 | 07/29/2022 |
| US | US FIN ASSUR | Financial Assurance Information | Environmental Protection Agency | 03/21/2022 | 03/21/2022 | 06/14/2022 |
| US | US HIST CDL | National Clandestine Laboratory Register | Drug Enforcement Administration | 04/30/2022 | 05/24/2022 | 07/29/2022 |
| US | US INST CONTROLS | Institutional Controls Sites List | Environmental Protection Agency | 05/16/2022 | 05/24/2022 | 07/29/2022 |
| US | US MINES | Mines Master Index File | Department of Labor, Mine Safety and Health A | 05/02/2022 | 05/25/2022 | 07/29/2022 |
| US | US MINES 2 | Ferrous and Nonferrous Metal Mines Database Listing | USGS | 05/06/2020 | 05/27/2020 | 08/13/2020 |
| US | US MINES 3 | Active Mines & Mineral Plants Database Listing | USGS | 04/14/2011 | 06/08/2011 | 09/13/2011 |
| US | UXO | Unexploded Ordnance Sites | Department of Defense | 12/31/2020 | 01/11/2022 | 02/14/2022 |

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

| St | Acronym | Full Name | Government Agency | Gov Date | Arvl. Date | Active Date |
|---|---|---|---|---|---|---|
| CT | CT MANIFEST | Hazardous Waste Manifest Data | Department of Energy & Environmental Protecti | 05/08/2022 | 05/09/2022 | 07/28/2022 |
| NJ | NJ MANIFEST | Manifest Information | Department of Environmental Protection | 12/31/2018 | 04/10/2019 | 05/16/2019 |
| NY | NY MANIFEST | Facility and Manifest Data | Department of Environmental Conservation | 01/01/2019 | 10/29/2021 | 01/19/2022 |
| PA | PA MANIFEST | Manifest Information | Department of Environmental Protection | 06/30/2018 | 07/19/2019 | 09/10/2019 |
| RI | RI MANIFEST | Manifest information | Department of Environmental Management | 12/31/2020 | 11/30/2021 | 02/18/2022 |
| WI | WI MANIFEST | Manifest Information | Department of Natural Resources | 05/31/2018 | 06/19/2019 | 09/03/2019 |
| US | AHA Hospitals | Sensitive Receptor: AHA Hospitals | American Hospital Association, Inc. | | | |
| US | Medical Centers | Sensitive Receptor: Medical Centers | Centers for Medicare & Medicaid Services | | | |
| US | Nursing Homes | Sensitive Receptor: Nursing Homes | National Institutes of Health | | | |
| US | Public Schools | Sensitive Receptor: Public Schools | National Center for Education Statistics | | | |
| US | Private Schools | Sensitive Receptor: Private Schools | National Center for Education Statistics | | | |
| CA | Daycare Centers | Sensitive Receptor: Licensed Facilities | Department of Social Services | | | |
| US | Flood Zones | 100-year and 500-year flood zones | Emergency Management Agency (FEMA) | | | |
| US | NWI | National Wetlands Inventory | U.S. Fish and Wildlife Service | | | |
| CA | State Wetlands | Wetland Inventory | Department of Fish and Wildlife | | | |
| US | Topographic Map | Current USGS 7.5 Minute Topographic Map | U.S. Geological Survey | | | |
| US | Oil/Gas Pipelines | | Endeavor Business Media | | | |
| US | Electric Power Transmission Line Data | | Endeavor Business Media | | | |

**STREET AND ADDRESS INFORMATION**

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# GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

**TARGET PROPERTY ADDRESS**

BANNING INDUSTRIAL
1431 AND 1219 WEST LINCOLN STREET
BANNING, CA 92220

**TARGET PROPERTY COORDINATES**

| | |
|---|---|
| Latitude (North): | 33.922496 - 33ˆ 55’ 20.99’’ |
| Longitude (West): | 116.892525 - 116ˆ 53’ 33.09’’ |
| Universal Tranverse Mercator: | Zone 11 |
| UTM X (Meters): | 509934.3 |
| UTM Y (Meters): | 3753373.5 |
| Elevation: | 2396 ft. above sea level |

**USGS TOPOGRAPHIC MAP**

| | |
|---|---|
| Target Property Map: | 12002802 BEAUMONT, CA |
| Version Date: | 2018 |
| East Map: | 12002822 CABAZON, CA |
| Version Date: | 2018 |

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**GROUNDWATER FLOW DIRECTION INFORMATION**

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

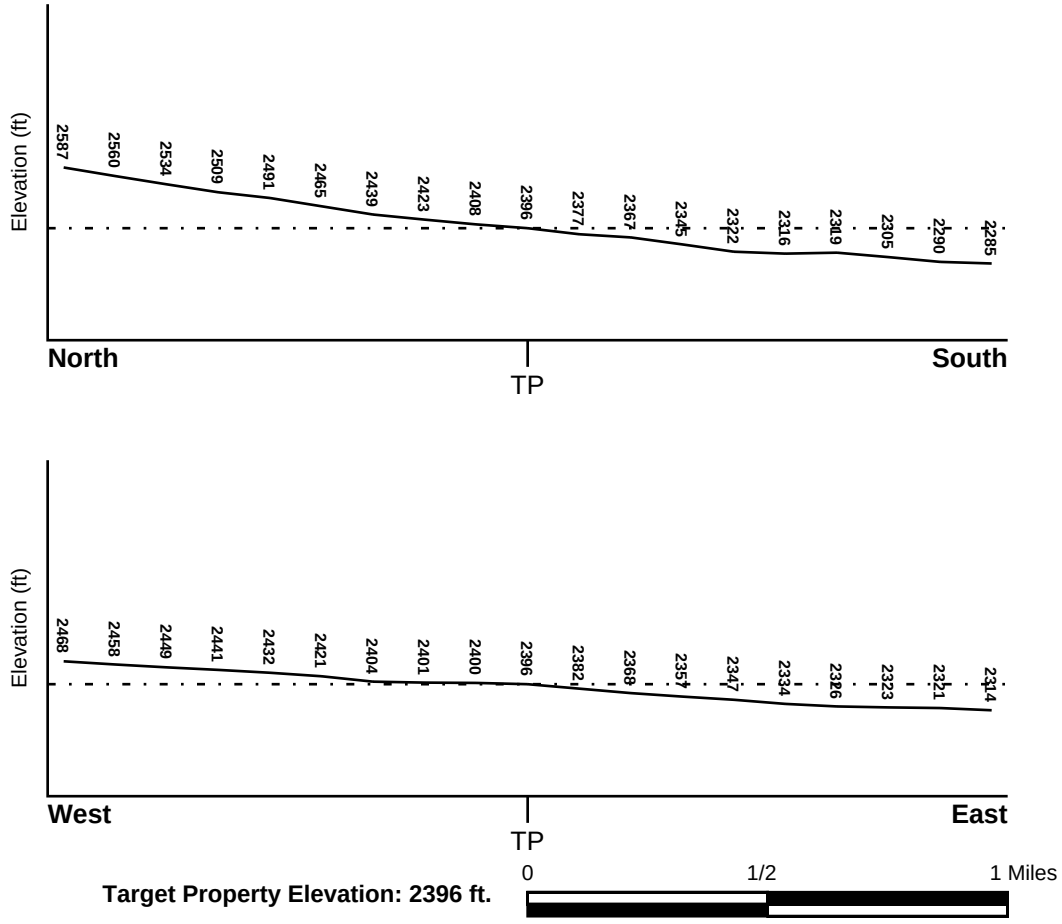
**TOPOGRAPHIC INFORMATION**

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

**TARGET PROPERTY TOPOGRAPHY**

General Topographic Gradient: General SSE

**SURROUNDING TOPOGRAPHY: ELEVATION PROFILES**




**Target Property Elevation: 2396 ft.**

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**HYDROLOGIC INFORMATION**

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

**FEMA FLOOD ZONE**

| Flood Plain Panel at Target Property | FEMA Source Type |
|---|---|
| 06065C0817G | FEMA FIRM Flood data |

| Additional Panels in search area: | FEMA Source Type |
|---|---|
| 06065C0816G | FEMA FIRM Flood data |

**NATIONAL WETLAND INVENTORY**

| NWI Quad at Target Property | NWI Electronic Data Coverage |
|---|---|
| BEAUMONT | YES - refer to the Overview Map and Detail Map |

**HYDROGEOLOGIC INFORMATION**

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

***Site-Specific Hydrogeological Data*:***

| | |
|---|---|
| Search Radius: | 1.25 miles |
| Status: | Not found |

**AQUIFLOW®**

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

| MAP ID | LOCATION FROM TP | GENERAL DIRECTION GROUNDWATER FLOW |
|---|---|---|
| Not Reported | | |

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**GROUNDWATER FLOW VELOCITY INFORMATION**

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

**GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY**

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

**ROCK STRATIGRAPHIC UNIT**

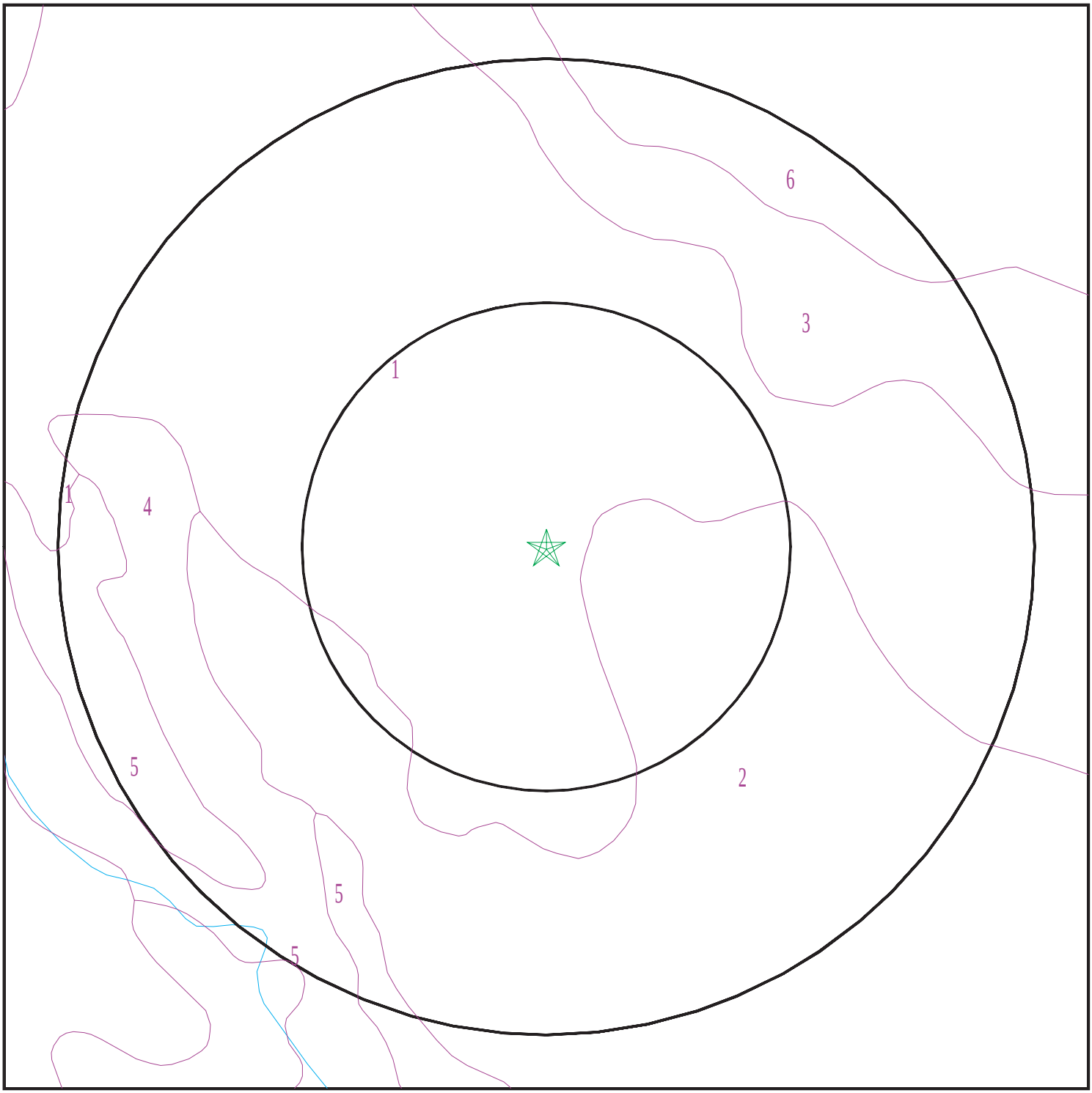
| | |
|---|---|
| Era: | Cenozoic |
| System: | Quaternary |
| Series: | Quaternary |
| Code: | Q *(decoded above as Era, System & Series)* |

**GEOLOGIC AGE IDENTIFICATION**

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

# SSURGO SOIL MAP - 7078092.2s




| | | | |
|---|---|---|---|
| SITE NAME: | Banning Industrial | CLIENT: | Terracon |
| ADDRESS: | 1431 and 1219 West Lincoln Street<br>Banning CA 92220 | CONTACT: | Sabrina Chantler |
| LAT/LONG: | 33.922496 / 116.892525 | INQUIRY #: | 7078092.2s |
| | | DATE: | August 05, 2022 12:31 pm |

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# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY**

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

---

**Soil Map ID: 1**

Soil Component Name: GREENFIELD

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 1 | 0 inches | 25 inches | sandy loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 42<br>Min: 14 | Max: 8.4<br>Min: 6.6 |
| 2 | 25 inches | 42 inches | fine sandy loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 42<br>Min: 14 | Max: 8.4<br>Min: 6.6 |
| 3 | 42 inches | 59 inches | loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 42<br>Min: 14 | Max: 8.4<br>Min: 6.6 |

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 4 | 59 inches | 72 inches | stratified loamy sand to sandy loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 42<br>Min: 14 | Max: 8.4<br>Min: 6.6 |

---

**Soil Map ID: 2**

Soil Component Name: RAMONA

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 1 | 0 inches | 14 inches | sandy loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 4<br>Min: 1.4 | Max: 8.4<br>Min: 6.6 |

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 2 | 14 inches | 22 inches | fine sandy loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 4<br>Min: 1.4 | Max: 8.4<br>Min: 6.6 |
| 3 | 22 inches | 68 inches | sandy clay loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 4<br>Min: 1.4 | Max: 8.4<br>Min: 6.6 |
| 4 | 68 inches | 74 inches | gravelly sandy loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 4<br>Min: 1.4 | Max: 8.4<br>Min: 6.6 |

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**Soil Map ID: 3**

Soil Component Name: HANFORD

Soil Surface Texture: coarse sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 1 | 0 inches | 7 inches | coarse sandy loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils. | COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 141<br>Min: 42 | Max: 7.8<br>Min: 5.6 |
| 2 | 7 inches | 40 inches | fine sandy loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils. | COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 141<br>Min: 42 | Max: 7.8<br>Min: 5.6 |
| 3 | 40 inches | 59 inches | stratified loamy sand to coarse sandy loam | Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils. | COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 141<br>Min: 42 | Max: 7.8<br>Min: 5.6 |

---

**Soil Map ID: 4**

Soil Component Name: Terrace escarpments

Soil Surface Texture: coarse sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**Soil Map ID: 5**

Soil Component Name: RAMONA

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 1 | 0 inches | 14 inches | sandy loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 4 Min: 1.4 | Max: 8.4 Min: 6.6 |
| 2 | 14 inches | 22 inches | fine sandy loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 4 Min: 1.4 | Max: 8.4 Min: 6.6 |
| 3 | 22 inches | 68 inches | sandy clay loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 4 Min: 1.4 | Max: 8.4 Min: 6.6 |
| 4 | 68 inches | 74 inches | gravelly sandy loam | Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 4 Min: 1.4 | Max: 8.4 Min: 6.6 |

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**Soil Map ID: 6**

Soil Component Name: GORGONIO

Soil Surface Texture: gravelly loamy fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

| Soil Layer Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Boundary | | | Classification | | Saturated hydraulic conductivity micro m/sec | Soil Reaction (pH) |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | | |
| 1 | 0 inches | 14 inches | gravelly loamy fine sand | Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 141<br>Min: 42 | Max: 7.3<br>Min: 5.6 |
| 2 | 14 inches | 59 inches | stratified gravelly loamy sand to gravelly loamy fine sand | Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand. | COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. | Max: 141<br>Min: 42 | Max: 7.3<br>Min: 5.6 |

**LOCAL / REGIONAL WATER AGENCY RECORDS**

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**WELL SEARCH DISTANCE INFORMATION**

| DATABASE | SEARCH DISTANCE (miles) |
|---|---|
| Federal USGS | 1.000 |
| Federal FRDS PWS | Nearest PWS within 1 mile |
| State Database | 1.000 |

**FEDERAL USGS WELL INFORMATION**

| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| 1 | USGS40000139006 | 1/2 - 1 Mile WSW |
| A4 | USGS40000138980 | 1/2 - 1 Mile WSW |
| B5 | USGS40000139041 | 1/2 - 1 Mile West |
| C11 | USGS40000139015 | 1/2 - 1 Mile East |

**FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION**

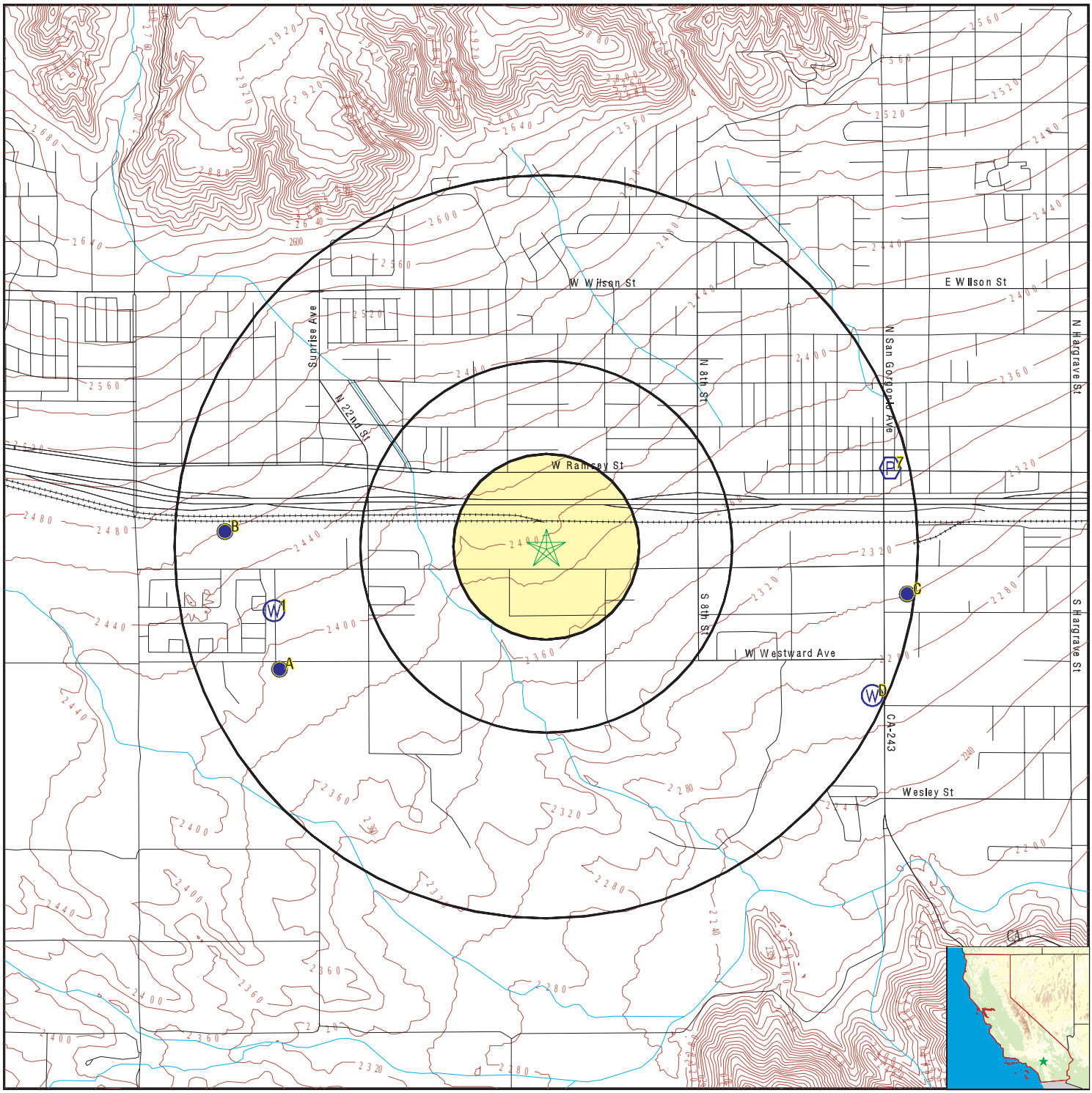
| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| 7 | 090600142 | 1/2 - 1 Mile ENE |

Note: PWS System location is not always the same as well location.

**STATE DATABASE WELL INFORMATION**

| MAP ID | WELL ID | LOCATION FROM TP |
|---|---|---|
| A2 | CADDW0000010333 | 1/2 - 1 Mile WSW |
| A3 | CAUSGSN00003112 | 1/2 - 1 Mile WSW |
| B6 | CADWR9000006126 | 1/2 - 1 Mile West |
| C8 | CADWR9000006107 | 1/2 - 1 Mile East |
| D9 | 2343 | 1/2 - 1 Mile ESE |
| D10 | 2344 | 1/2 - 1 Mile ESE |
| C12 | CADDW0000014314 | 1/2 - 1 Mile East |
| C13 | CAUSGS000002636 | 1/2 - 1 Mile East |
| C14 | CAUSGSN00002474 | 1/2 - 1 Mile East |

# PHYSICAL SETTING SOURCE MAP - 7078092.2s




0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

| | | | |
|---|---|---|---|
| SITE NAME: | Banning Industrial | CLIENT: | Terracon |
| ADDRESS: | 1431 and 1219 West Lincoln Street<br>Banning CA 92220 | CONTACT: | Sabrina Chantler |
| LAT/LONG: | 33.922496 / 116.892525 | INQUIRY #: | 7078092.2s |
| | | DATE: | August 05, 2022 12:31 pm |

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Map ID
Direction
Distance
Elevation | Database | EDR ID Number

**1**
**WSW**
**1/2 - 1 Mile**
**Higher** | **FED USGS** | **USGS40000139006**

| | | | |
|---|---|---|---|
| Organization ID: | USGS-CA | | |
| Organization Name: | USGS California Water Science Center | | |
| Monitor Location: | 003S001E08P001S | Type: | Well |
| Description: | Not Reported | HUC: | Not Reported |
| Drainage Area: | Not Reported | Drainage Area Units: | Not Reported |
| Contrib Drainage Area: | Not Reported | Contrib Drainage Area Unts: | Not Reported |
| Aquifer: | Basin and Range basin-fill aquifers | | |
| Formation Type: | Not Reported | Aquifer Type: | Not Reported |
| Construction Date: | 1951 | Well Depth: | 800 |
| Well Depth Units: | ft | Well Hole Depth: | 800 |
| Well Hole Depth Units: | ft | | |

| | | | |
|---|---|---|---|
| Ground water levels,Number of Measurements: | 102 | Level reading date: | 1980-03-15 |
| Feet below surface: | Not Reported | Feet to sea level: | 2026 |
| Note: | Not Reported | | |

| | | | |
|---|---|---|---|
| Level reading date: | 1978-07-18 | Feet below surface: | Not Reported |
| Feet to sea level: | 2011 | Note: | Not Reported |
| Level reading date: | 1978-06-27 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1978-05-26 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1978-04-26 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1978-03-27 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1978-02-23 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1978-01-26 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1977-12-22 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1977-11-22 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1977-10-24 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1977-09-23 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1977-08-26 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1977-07-27 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1977-07-05 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1977-06-01 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1977-05-01 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1977-04-01 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1977-03-02 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1977-02-02 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1977-01-03 | Feet below surface: | Not Reported |
| Feet to sea level: | 2011 | Note: | Not Reported |
| Level reading date: | 1976-12-04 | Feet below surface: | Not Reported |
| Feet to sea level: | 2011 | Note: | Not Reported |
| Level reading date: | 1976-11-03 | Feet below surface: | Not Reported |
| Feet to sea level: | 2011 | Note: | Not Reported |
| Level reading date: | 1976-10-04 | Feet below surface: | Not Reported |
| Feet to sea level: | 2011 | Note: | Not Reported |
| Level reading date: | 1976-09-04 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1976-07-31 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1976-07-03 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1976-07-02 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1976-06-02 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1976-05-01 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1976-04-01 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1976-03-31 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1976-02-29 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1976-02-12 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1976-01-29 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1975-12-23 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1975-11-22 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1973-09-28 | Feet below surface: | Not Reported |
| Feet to sea level: | 1997 | Note: | Not Reported |
| Level reading date: | 1973-07-06 | Feet below surface: | Not Reported |
| Feet to sea level: | 2010 | Note: | Not Reported |
| Level reading date: | 1973-04-27 | Feet below surface: | Not Reported |
| Feet to sea level: | 2012 | Note: | Not Reported |
| Level reading date: | 1973-02-23 | Feet below surface: | Not Reported |
| Feet to sea level: | 1997 | Note: | Not Reported |
| Level reading date: | 1972-12-14 | Feet below surface: | Not Reported |
| Feet to sea level: | 2006 | Note: | Not Reported |
| Level reading date: | 1972-11-01 | Feet below surface: | Not Reported |
| Feet to sea level: | 2008 | Note: | Not Reported |
| Level reading date: | 1972-07-07 | Feet below surface: | Not Reported |
| Feet to sea level: | 2009 | Note: | Not Reported |
| Level reading date: | 1972-04-07 | Feet below surface: | Not Reported |
| Feet to sea level: | 2009 | Note: | Not Reported |
| Level reading date: | 1972-01-28 | Feet below surface: | Not Reported |
| Feet to sea level: | 2009 | Note: | Not Reported |
| Level reading date: | 1971-11-24 | Feet below surface: | Not Reported |
| Feet to sea level: | 2009 | Note: | Not Reported |
| Level reading date: | 1971-09-03 | Feet below surface: | Not Reported |
| Feet to sea level: | 2008 | Note: | Not Reported |
| Level reading date: | 1971-07-30 | Feet below surface: | Not Reported |
| Feet to sea level: | 2007 | Note: | Not Reported |
| Level reading date: | 1971-04-23 | Feet below surface: | Not Reported |
| Feet to sea level: | 2008 | Note: | Not Reported |
| Level reading date: | 1971-02-24 | Feet below surface: | Not Reported |
| Feet to sea level: | 2002 | Note: | Not Reported |
| Level reading date: | 1971-01-18 | Feet below surface: | Not Reported |
| Feet to sea level: | 2006 | Note: | Not Reported |
| Level reading date: | 1970-10-19 | Feet below surface: | Not Reported |
| Feet to sea level: | 2008 | Note: | Not Reported |
| Level reading date: | 1970-08-07 | Feet below surface: | Not Reported |
| Feet to sea level: | 2007 | Note: | Not Reported |
| Level reading date: | 1966-08-26 | Feet below surface: | Not Reported |
| Feet to sea level: | 2010 | Note: | Not Reported |
| Level reading date: | 1962-01-26 | Feet below surface: | Not Reported |
| Feet to sea level: | 2022 | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1961-10-13 | Feet below surface: | Not Reported |
| Feet to sea level: | 2023 | Note: | Not Reported |
| Level reading date: | 1961-08-04 | Feet below surface: | Not Reported |
| Feet to sea level: | 2026 | Note: | Not Reported |
| Level reading date: | 1961-06-02 | Feet below surface: | Not Reported |
| Feet to sea level: | 2013 | Note: | Not Reported |
| Level reading date: | 1961-02-10 | Feet below surface: | Not Reported |
| Feet to sea level: | 2018 | Note: | Not Reported |
| Level reading date: | 1960-12-02 | Feet below surface: | Not Reported |
| Feet to sea level: | 2026 | Note: | Not Reported |
| Level reading date: | 1960-10-07 | Feet below surface: | Not Reported |
| Feet to sea level: | 2026 | Note: | Not Reported |
| Level reading date: | 1960-08-11 | Feet below surface: | Not Reported |
| Feet to sea level: | 2026 | Note: | Not Reported |
| Level reading date: | 1960-05-27 | Feet below surface: | Not Reported |
| Feet to sea level: | 2026 | Note: | Not Reported |
| Level reading date: | 1960-04-08 | Feet below surface: | Not Reported |
| Feet to sea level: | 2027 | Note: | Not Reported |
| Level reading date: | 1960-02-05 | Feet below surface: | Not Reported |
| Feet to sea level: | 2027 | Note: | Not Reported |
| Level reading date: | 1959-12-11 | Feet below surface: | Not Reported |
| Feet to sea level: | 2027 | Note: | Not Reported |
| Level reading date: | 1959-09-04 | Feet below surface: | Not Reported |
| Feet to sea level: | 2028 | Note: | Not Reported |
| Level reading date: | 1959-06-11 | Feet below surface: | Not Reported |
| Feet to sea level: | 2029 | Note: | Not Reported |
| Level reading date: | 1959-04-17 | Feet below surface: | Not Reported |
| Feet to sea level: | 2030 | Note: | Not Reported |
| Level reading date: | 1959-02-20 | Feet below surface: | Not Reported |
| Feet to sea level: | 2030 | Note: | Not Reported |
| Level reading date: | 1958-11-28 | Feet below surface: | Not Reported |
| Feet to sea level: | 2030 | Note: | Not Reported |
| Level reading date: | 1958-10-02 | Feet below surface: | Not Reported |
| Feet to sea level: | 2029 | Note: | Not Reported |
| Level reading date: | 1958-08-08 | Feet below surface: | Not Reported |
| Feet to sea level: | 2031 | Note: | Not Reported |
| Level reading date: | 1958-06-11 | Feet below surface: | Not Reported |
| Feet to sea level: | 2031 | Note: | Not Reported |
| Level reading date: | 1958-04-11 | Feet below surface: | Not Reported |
| Feet to sea level: | 2031 | Note: | Not Reported |
| Level reading date: | 1958-02-07 | Feet below surface: | Not Reported |
| Feet to sea level: | 2032 | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1957-12-13 | Feet below surface: | Not Reported |
| Feet to sea level: | 2032 | Note: | Not Reported |
| Level reading date: | 1957-10-02 | Feet below surface: | Not Reported |
| Feet to sea level: | 2032 | Note: | Not Reported |
| Level reading date: | 1957-08-01 | Feet below surface: | Not Reported |
| Feet to sea level: | 2031 | Note: | Not Reported |
| Level reading date: | 1957-06-24 | Feet below surface: | Not Reported |
| Feet to sea level: | 2081 | Note: | Not Reported |
| Level reading date: | 1957-03-29 | Feet below surface: | Not Reported |
| Feet to sea level: | 2036 | Note: | Not Reported |
| Level reading date: | 1957-01-25 | Feet below surface: | Not Reported |
| Feet to sea level: | 2036 | Note: | Not Reported |
| Level reading date: | 1955-04-11 | Feet below surface: | Not Reported |
| Feet to sea level: | 2046 | Note: | Not Reported |
| Level reading date: | 1955-03-07 | Feet below surface: | Not Reported |
| Feet to sea level: | 2046 | Note: | Not Reported |
| Level reading date: | 1955-02-07 | Feet below surface: | Not Reported |
| Feet to sea level: | 2046 | Note: | Not Reported |
| Level reading date: | 1955-01-10 | Feet below surface: | Not Reported |
| Feet to sea level: | 2046 | Note: | Not Reported |
| Level reading date: | 1954-12-06 | Feet below surface: | Not Reported |
| Feet to sea level: | 2046 | Note: | Not Reported |
| Level reading date: | 1954-11-15 | Feet below surface: | Not Reported |
| Feet to sea level: | 2040 | Note: | Not Reported |
| Level reading date: | 1954-10-04 | Feet below surface: | Not Reported |
| Feet to sea level: | 2040 | Note: | Not Reported |
| Level reading date: | 1954-09-20 | Feet below surface: | Not Reported |
| Feet to sea level: | 2040 | Note: | Not Reported |
| Level reading date: | 1954-07-05 | Feet below surface: | Not Reported |
| Feet to sea level: | 2046 | Note: | Not Reported |
| Level reading date: | 1954-06-07 | Feet below surface: | Not Reported |
| Feet to sea level: | 2046 | Note: | Not Reported |
| Level reading date: | 1954-05-03 | Feet below surface: | Not Reported |
| Feet to sea level: | 2046 | Note: | Not Reported |
| Level reading date: | 1954-04-05 | Feet below surface: | Not Reported |
| Feet to sea level: | 2026 | Note: | Not Reported |
| Level reading date: | 1954-02-08 | Feet below surface: | Not Reported |
| Feet to sea level: | 2036 | Note: | Not Reported |
| Level reading date: | 1954-01-11 | Feet below surface: | Not Reported |
| Feet to sea level: | 2036 | Note: | Not Reported |
| Level reading date: | 1953-12-14 | Feet below surface: | Not Reported |
| Feet to sea level: | 2034 | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 1953-10-12 | Feet below surface: | Not Reported |
| Feet to sea level: | 1996 | Note: | Not Reported |
| Level reading date: | 1953-09-14 | Feet below surface: | Not Reported |
| Feet to sea level: | 1986 | Note: | Not Reported |
| Level reading date: | 1953-08-10 | Feet below surface: | Not Reported |
| Feet to sea level: | 1976 | Note: | Not Reported |
| Level reading date: | 1953-07-13 | Feet below surface: | Not Reported |
| Feet to sea level: | 2036 | Note: | Not Reported |

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**A2**
**WSW** **CA WELLS** **CADDW0000010333**
**1/2 - 1 Mile**
**Higher**

| | | | |
|---|---|---|---|
| Well ID: | 3310006-017 | Well Type: | MUNICIPAL |
| Source: | Department of Health Services | | |
| Other Name: | WELL C-05 | GAMA PFAS Testing: | Not Reported |
| Groundwater Quality Data: | https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3310006-017&store_num= | | |
| GeoTracker Data: | Not Reported | | |

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**A3**
**WSW** **CA WELLS** **CAUSGSN00003112**
**1/2 - 1 Mile**
**Higher**

| | | | |
|---|---|---|---|
| Well ID: | USGS-335504116541501 | Well Type: | UNK |
| Source: | United States Geological Survey | | |
| Other Name: | USGS-335504116541501 | GAMA PFAS Testing: | Not Reported |
| Groundwater Quality Data: | https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-335504116541501&store_num= | | |
| GeoTracker Data: | Not Reported | | |

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**A4**
**WSW** **FED USGS** **USGS40000138980**
**1/2 - 1 Mile**
**Higher**

| | | | |
|---|---|---|---|
| Organization ID: | USGS-CA | | |
| Organization Name: | USGS California Water Science Center | | |
| Monitor Location: | 003S001E17C001S | Type: | Well |
| Description: | Not Reported | HUC: | 18100200 |
| Drainage Area: | Not Reported | Drainage Area Units: | Not Reported |
| Contrib Drainage Area: | Not Reported | Contrib Drainage Area Unts: | Not Reported |
| Aquifer: | Basin and Range basin-fill aquifers | | |
| Formation Type: | Not Reported | Aquifer Type: | Not Reported |
| Construction Date: | 19900922 | Well Depth: | 1420 |
| Well Depth Units: | ft | Well Hole Depth: | 1440 |
| Well Hole Depth Units: | ft | | |

| | | | |
|---|---|---|---|
| Ground water levels,Number of Measurements: | 7 | Level reading date: | 1999-04-01 |
| Feet below surface: | 315 | Feet to sea level: | Not Reported |
| Note: | Not Reported | | |

| | | | |
|---|---|---|---|
| Level reading date: | 1998-11-01 | Feet below surface: | 314 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1998-06-15 | Feet below surface: | 424 |
| Feet to sea level: | Not Reported | Note: | The site was being pumped. |
| Level reading date: | 1997-10-20 | Feet below surface: | Not Reported |
| Feet to sea level: | 1940 | Note: | Not Reported |
| Level reading date: | 1996-09-17 | Feet below surface: | 325.95 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1993-06-04 | Feet below surface: | Not Reported |
| Feet to sea level: | 2070 | Note: | Not Reported |
| Level reading date: | 1993-04-29 | Feet below surface: | Not Reported |
| Feet to sea level: | 2026 | Note: | Not Reported |

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**B5**
**West**
**1/2 - 1 Mile**
**Higher**

**FED USGS** **USGS40000139041**

| | | | |
|---|---|---|---|
| Organization ID: | USGS-CA | | |
| Organization Name: | USGS California Water Science Center | | |
| Monitor Location: | 003S001E08M001S | Type: | Well |
| Description: | Not Reported | HUC: | 18100200 |
| Drainage Area: | Not Reported | Drainage Area Units: | Not Reported |
| Contrib Drainage Area: | Not Reported | Contrib Drainage Area Unts: | Not Reported |
| Aquifer: | Basin and Range basin-fill aquifers | | |
| Formation Type: | Not Reported | Aquifer Type: | Not Reported |
| Construction Date: | Not Reported | Well Depth: | Not Reported |
| Well Depth Units: | Not Reported | Well Hole Depth: | Not Reported |
| Well Hole Depth Units: | Not Reported | | |

| | | | |
|---|---|---|---|
| Ground water levels,Number of Measurements: | 13 | Level reading date: | 2004-10-28 |
| Feet below surface: | 503.3 | Feet to sea level: | Not Reported |
| Note: | Not Reported | | |
| Level reading date: | 2004-04-22 | Feet below surface: | 501.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2003-11-20 | Feet below surface: | 500.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2003-04-29 | Feet below surface: | 499.4 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2002-11-06 | Feet below surface: | 498.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2002-04-24 | Feet below surface: | 497.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2001-11-06 | Feet below surface: | 496.1 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2001-05-16 | Feet below surface: | 494.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

| | | | |
|---|---|---|---|
| Level reading date: | 2000-10-25 | Feet below surface: | 494.6 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2000-04-25 | Feet below surface: | 494.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1999-10-28 | Feet below surface: | 494.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1999-04-28 | Feet below surface: | 494.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1996-09-17 | Feet below surface: | 497.55 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

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**B6**
**West**
**1/2 - 1 Mile**
**Higher**

**CA WELLS** **CADWR9000006126**

| | | | |
|---|---|---|---|
| State Well #: | 03S01E08M001S | Station ID: | 4176 |
| Well Name: | Not Reported | Basin Name: | San Gorgonio Pass |
| Well Use: | Unknown | Well Type: | Unknown |
| Well Depth: | 0 | Well Completion Rpt #: | Not Reported |

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**7**
**ENE**
**1/2 - 1 Mile**
**Lower**

**FRDS PWS** **090600142**

| | | | |
|---|---|---|---|
| Epa region: | 09 | State: | 09 |
| Pwsid: | 090600142 | Pwsname: | Morongo |
| Cityserved: | Not Reported | Stateserved: | 09 |
| Zipserved: | Not Reported | Fipscounty: | Not Reported |
| Status: | Active | Retpopsrvd: | 10950 |
| Pwssvcconn: | 535 | Psource longname: | Groundwater |
| Pwstype: | CWS | Owner: | Native_Am |
| Contact: | Robert Martin | Contactorgname: | Morongo Band of Missions Indians |
| Contactphone: | 9518494697 | Contactaddress1: | 12700 Pumarra Rd |
| Contactaddress2: | Not Reported | Contactcity: | Banning |
| Contactstate: | CA | Contactzip: | 92220 |
| Pwsactivitycode: | A | | |
| Pwsid: | 090600142 | Facid: | 0600142TP001 |
| Facname: | Trtmnt at the two 1-MG Tank Site - wells 5 & 6 | | |
| Factype: | Treatment_plant | Facactivitycode: | A |
| Trtobjective: | disinfection | Trtprocess: | hypochlorination, post |
| Factypecode: | TP | | |
| Pwsid: | 090600142 | Facid: | 0600142TP002 |
| Facname: | Secondary Disinfection for Cobblestone Well at ST004 | | |
| Factype: | Treatment_plant | Facactivitycode: | A |
| Trtobjective: | disinfection | Trtprocess: | hypochlorination, post |
| Factypecode: | TP | | |
| Pwsid: | 090600142 | Facid: | 0600142TP003 |
| Facname: | Chlorination for Cobblestone Well | | |
| Factype: | Treatment_plant | Facactivitycode: | A |
| Trtobjective: | disinfection | Trtprocess: | hypochlorination, post |

| | | | |
|---|---|---|---|
| Factypecode: | TP | | |
| Pwsid: | 090600142 | Facid: | 0600142TP004 |
| Facname: | Treatment for Well 3 | Factype: | Treatment_plant |
| Facactivitycode: | A | Trtobjective: | disinfection |
| Trtprocess: | hypochlorination, post | Factypecode: | TP |
| Pwsid: | 090600142 | Facid: | 0600142TP005 |
| Facname: | Treatment for Well 6 | Factype: | Treatment_plant |
| Facactivitycode: | A | Trtobjective: | disinfection |
| Trtprocess: | hypochlorination, post | Factypecode: | TP |
| PWS ID: | 090600142 | PWS name: | MORONGO RESERVATION |
| Address: | 11581 POTRERO ROAD | Care of: | Not Reported |
| City: | BANNING | State: | CA |
| Zip: | 92220 | Owner: | MORONGO RESERVATION |
| Source code: | Ground water | Population: | 1500 |
| PWS ID: | 090600142 | PWS type: | Mailing |
| PWS name: | MORONGO RESERVATION | PWS address: | Not Reported |
| PWS city: | BANNING | PWS state: | CA |
| PWS zip: | 92220 | PWS name: | Morongo |
| PWS type code: | C | Retail population served: | 10000 |
| Contact: | Maurice Lyons | Contact address: | 11581 Potrero Road |
| Contact address: | Banning | Contact city: | CA |
| Contact state: | 92 | Contact zip: | 9518494697 |
| Contact telephone: | Not Reported | | |
| PWS ID: | 090600142 | Activity status: | Active |
| Date system activated: | 8105 | Date system deactivated: | Not Reported |
| Retail population: | 00000550 | System name: | MR. ROBERT MARTIN, CHAIRPERSON |
| System address: | Not Reported | System address: | P.O. BOX 584 |
| System city: | BANNING | System state: | CA |
| System zip: | Not Reported | | |
| County FIPS: | Not Reported | City served: | SACRAMENTO IHS |
| County FIPS: | 065 | City served: | SACRAMENTO IHS |
| Population served: | 1,001 - 2,500 Persons | Treatment: | Not Reported |
| Latitude: | 335532 | Longitude: | 1165232 |
| Violation id: | 060014203104012001 | Orig code: | R |
| State: | 09 | Violation Year: | 2001 |
| Contamination code: | 1040 | Contamination Name: | Nitrate |
| Violation code: | 03 | Violation name: | Monitoring, Regular |
| Rule code: | 331 | Rule name: | Nitrates |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 01/01/2001 |
| Cmp edt: | 12/31/2001 | | |
| Violation id: | 0600142243100102003 | Orig code: | R |
| State: | 09 | Violation Year: | 2003 |
| Contamination code: | 3100 | Contamination Name: | Coliform (TCR) |
| Violation code: | 24 | Violation name: | Monitoring, Routine Minor (TCR) |
| Rule code: | 110 | Rule name: | TCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 10/01/2003 |
| Cmp edt: | 10/31/2003 | | |
| Violation id: | 0600142243100112007 | Orig code: | R |

| | | | |
|---|---|---|---|
| State: | 09 | Violation Year: | 2007 |
| Contamination code: | 3100 | Contamination Name: | Coliform (TCR) |
| Violation code: | 24 | Violation name: | Monitoring, Routine Minor (TCR) |
| Rule code: | 110 | Rule name: | TCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 11/01/2007 |
| Cmp edt: | 11/30/2007 | | |

| | | | |
|---|---|---|---|
| Violation id: | 0600142243100112008 | Orig code: | R |
| State: | 09 | Violation Year: | 2008 |
| Contamination code: | 3100 | Contamination Name: | Coliform (TCR) |
| Violation code: | 24 | Violation name: | Monitoring, Routine Minor (TCR) |
| Rule code: | 110 | Rule name: | TCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 11/01/2008 |
| Cmp edt: | 11/30/2008 | | |

| | | | |
|---|---|---|---|
| Violation id: | 0600142243100122006 | Orig code: | R |
| State: | 09 | Violation Year: | 2006 |
| Contamination code: | 3100 | Contamination Name: | Coliform (TCR) |
| Violation code: | 24 | Violation name: | Monitoring, Routine Minor (TCR) |
| Rule code: | 110 | Rule name: | TCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 12/01/2006 |
| Cmp edt: | 12/31/2006 | | |

| | | | |
|---|---|---|---|
| Violation id: | 060014224310022005 | Orig code: | R |
| State: | 09 | Violation Year: | 2005 |
| Contamination code: | 3100 | Contamination Name: | Coliform (TCR) |
| Violation code: | 24 | Violation name: | Monitoring, Routine Minor (TCR) |
| Rule code: | 110 | Rule name: | TCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 02/01/2005 |
| Cmp edt: | 02/28/2005 | | |

| | | | |
|---|---|---|---|
| Violation id: | 060014224310042005 | Orig code: | R |
| State: | 09 | Violation Year: | 2005 |
| Contamination code: | 3100 | Contamination Name: | Coliform (TCR) |
| Violation code: | 24 | Violation name: | Monitoring, Routine Minor (TCR) |
| Rule code: | 110 | Rule name: | TCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 04/01/2005 |
| Cmp edt: | 04/30/2005 | | |

| | | | |
|---|---|---|---|
| Violation id: | 060014224310042006 | Orig code: | R |
| State: | 09 | Violation Year: | 2006 |
| Contamination code: | 3100 | Contamination Name: | Coliform (TCR) |
| Violation code: | 24 | Violation name: | Monitoring, Routine Minor (TCR) |
| Rule code: | 110 | Rule name: | TCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 04/01/2006 |
| Cmp edt: | 04/30/2006 | | |

| | | | |
|---|---|---|---|
| Violation id: | 060014224310072005 | Orig code: | R |
| State: | 09 | Violation Year: | 2005 |
| Contamination code: | 3100 | Contamination Name: | Coliform (TCR) |
| Violation code: | 24 | Violation name: | Monitoring, Routine Minor (TCR) |
| Rule code: | 110 | Rule name: | TCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 07/01/2005 |
| Cmp edt: | 07/31/2005 | | |

| | | | |
|---|---|---|---|
| Violation id: | 060014224310082007 | Orig code: | R |
| State: | 09 | Violation Year: | 2007 |
| Contamination code: | 3100 | Contamination Name: | Coliform (TCR) |
| Violation code: | 24 | Violation name: | Monitoring, Routine Minor (TCR) |
| Rule code: | 110 | Rule name: | TCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 08/01/2007 |
| Cmp edt: | 08/31/2007 | | |

| | | | |
|---|---|---|---|
| Violation id: | 060014224310082008 | Orig code: | R |
| State: | 09 | Violation Year: | 2008 |
| Contamination code: | 3100 | Contamination Name: | Coliform (TCR) |
| Violation code: | 24 | Violation name: | Monitoring, Routine Minor (TCR) |
| Rule code: | 110 | Rule name: | TCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 08/01/2008 |
| Cmp edt: | 08/31/2008 | | |

| | | | |
|---|---|---|---|
| Violation id: | 060014224310092005 | Orig code: | R |
| State: | 09 | Violation Year: | 2005 |
| Contamination code: | 3100 | Contamination Name: | Coliform (TCR) |
| Violation code: | 24 | Violation name: | Monitoring, Routine Minor (TCR) |
| Rule code: | 110 | Rule name: | TCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 09/01/2005 |
| Cmp edt: | 09/30/2005 | | |

| | | | |
|---|---|---|---|
| Violation id: | 060014271700072000 | Orig code: | R |
| State: | 09 | Violation Year: | 2000 |
| Contamination code: | 7000 | Contamination Name: | Consumer Confidence Rule |
| Violation code: | 71 | Violation name: | CCR Complete Failure to Report |
| Rule code: | 420 | Rule name: | CCR |
| Violation measur: | Not Reported | Unit of measure: | Not Reported |
| State mcl: | Not Reported | Cmp bdt: | 07/01/2000 |
| Cmp edt: | Not Reported | | |

| | | | |
|---|---|---|---|
| Violation ID: | 0600142023000101984 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |

| | | | |
|---|---|---|---|
| Violation ID: | 0600142023000101987 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |

| | | | |
|---|---|---|---|
| Violation ID: | 060014202300011988 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |

| | | | |
|---|---|---|---|
| Violation ID: | 060014202300041986 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |

| | | | |
|---|---|---|---|
| Violation ID: | 060014202300041987 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |

| | | | |
|---|---|---|---|
| Violation ID: | 060014202300071985 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |

| | | | |
|---|---|---|---|
| Violation ID: | 060014202300071986 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |

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|---|---|---|---|
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014202300071987 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203102411998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203104012001 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203104111998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203109411998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203203211998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203204611998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203206311998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 0600142033000101982 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 0600142033000111982 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 0600142033000111983 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300011983 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300011984 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 0600142033000121982 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300021983 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |

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|---|---|---|---|
| Violation ID: | 060014203300021984 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300031983 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300031984 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300041983 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300051983 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300061983 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300061984 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300071983 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300071984 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300081983 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300081984 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300091983 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014203300091984 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014221310011991 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 0600142223100101991 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 0600142223100101998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |

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|---|---|---|---|
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014222310011998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 0600142223100121997 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014222310051991 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014222310061998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014222310091991 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014223310031996 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 0600142243100102003 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 0600142243100112007 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 0600142243100112008 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 0600142243100122006 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014224310022005 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014224310042005 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014224310042006 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014224310072005 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014224310082007 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |

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|---|---|---|---|
| Violation ID: | 060014224310082008 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014224310092005 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014225310011998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014225310021998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014225310061998 | Orig Code: | R |
| Enforcemnt FY: | 2010 | Enforcement Action: | 01/21/2010 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | 060014271700072000 | Orig Code: | R |
| Enforcemnt FY: | 2006 | Enforcement Action: | 08/18/2006 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Resolving |
| Violation ID: | Not Reported | Orig Code: | R |
| Enforcemnt FY: | 2005 | Enforcement Action: | 09/14/2005 |
| Enforcement Detail: | Fed Violation/Reminder Notice | | |
| Enforcement Category: | Not Reported | | |
| Violation ID: | Not Reported | Orig Code: | R |
| Enforcemnt FY: | 2009 | Enforcement Action: | 05/12/2009 |
| Enforcement Detail: | Fed Tech Assistance Visit | Enforcement Category: | Not Reported |
| Violation ID: | Not Reported | Orig Code: | R |
| Enforcemnt FY: | 2014 | Enforcement Action: | 03/19/2014 |
| Enforcement Detail: | Fed Violation/Reminder Notice | | |
| Enforcement Category: | Not Reported | | |
| Violation ID: | Not Reported | Orig Code: | R |
| Enforcemnt FY: | 2007 | Enforcement Action: | 06/13/2007 |
| Enforcement Detail: | Fed Tech Assistance Visit | Enforcement Category: | Not Reported |
| Violation ID: | Not Reported | Orig Code: | R |
| Enforcemnt FY: | 2009 | Enforcement Action: | 12/18/2008 |
| Enforcement Detail: | Fed Tech Assistance Visit | Enforcement Category: | Not Reported |
| Violation ID: | Not Reported | Orig Code: | R |
| Enforcemnt FY: | 2011 | Enforcement Action: | 11/01/2010 |
| Enforcement Detail: | Fed Tech Assistance Visit | Enforcement Category: | Not Reported |
| Violation ID: | Not Reported | Orig Code: | R |
| Enforcemnt FY: | 2007 | Enforcement Action: | 05/18/2007 |
| Enforcement Detail: | Fed Tech Assistance Visit | Enforcement Category: | Not Reported |
| Violation ID: | Not Reported | Orig Code: | R |
| Enforcemnt FY: | 2011 | Enforcement Action: | 02/15/2011 |
| Enforcement Detail: | Fed Compliance achieved | Enforcement Category: | Not Reported |
| Violation ID: | Not Reported | Orig Code: | R |
| Enforcemnt FY: | 2008 | Enforcement Action: | 11/15/2007 |
| Enforcement Detail: | Fed Tech Assistance Visit | Enforcement Category: | Not Reported |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 0102547 |
| Contaminant: | NITRATE | Violation type: | 3 |
| Compliance start date: | 1/1/2001 0:00:00 | Compliance end date: | 12/31/2001 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 0371817 |
| Contaminant: | 7000 | Violation type: | 71 |
| Compliance start date: | 7/1/2000 0:00:00 | Compliance end date: | 8/18/2006 0:00:00 |
| Enforcement date: | 8/18/2006 0:00:00 | Enforcement action: | Fed Compliance Achieved |
| Violation measurement: | Not Reported | | |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 0400048 |
| Contaminant: | COLIFORM (TCR) | Violation type: | Monitoring, Routine Minor (TCR) |
| Compliance start date: | 10/1/2003 0:00:00 | Compliance end date: | 10/31/2003 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 0504361 |
| Contaminant: | COLIFORM (TCR) | Violation type: | Monitoring, Routine Minor (TCR) |
| Compliance start date: | 2/1/2005 0:00:00 | Compliance end date: | 2/28/2005 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 0536780 |
| Contaminant: | COLIFORM (TCR) | Violation type: | Monitoring, Routine Minor (TCR) |
| Compliance start date: | 4/1/2005 0:00:00 | Compliance end date: | 4/30/2005 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 0600142243100112007 |
| Contaminant: | COLIFORM (TCR) | Violation type: | Monitoring, Routine Minor (TCR) |
| Compliance start date: | 11/1/2007 0:00:00 | Compliance end date: | 11/30/2007 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 0600142243100112008 |
| Contaminant: | COLIFORM (TCR) | Violation type: | Monitoring, Routine Minor (TCR) |
| Compliance start date: | 11/1/2008 0:00:00 | Compliance end date: | 11/30/2008 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 0600142243100122006 |
| Contaminant: | COLIFORM (TCR) | Violation type: | Monitoring, Routine Minor (TCR) |
| Compliance start date: | 12/1/2006 0:00:00 | Compliance end date: | 12/31/2006 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 0600142243100042006 |
| Contaminant: | COLIFORM (TCR) | Violation type: | Monitoring, Routine Minor (TCR) |
| Compliance start date: | 4/1/2006 0:00:00 | Compliance end date: | 4/30/2006 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 060014224310072005 |
| Contaminant: | COLIFORM (TCR) | Violation type: | Monitoring, Routine Minor (TCR) |
| Compliance start date: | 7/1/2005 0:00:00 | Compliance end date: | 7/31/2005 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 060014224310082007 |
| Contaminant: | COLIFORM (TCR) | Violation type: | Monitoring, Routine Minor (TCR) |
| Compliance start date: | 8/1/2007 0:00:00 | Compliance end date: | 8/31/2007 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

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|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 060014224310082008 |
| Contaminant: | COLIFORM (TCR) | Violation type: | Monitoring, Routine Minor (TCR) |
| Compliance start date: | 8/1/2008 0:00:00 | Compliance end date: | 8/31/2008 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

| | | | |
|---|---|---|---|
| PWS name: | Morongo | Population served: | 10000 |
| PWS type code: | C | Violation ID: | 060014224310092005 |
| Contaminant: | COLIFORM (TCR) | Violation type: | Monitoring, Routine Minor (TCR) |
| Compliance start date: | 9/1/2005 0:00:00 | Compliance end date: | 9/30/2005 0:00:00 |
| Enforcement date: | No Enf Action as of | Enforcement action: | 7/8/2009 0:00:00 |
| Violation measurement: | Not Reported | | |

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**C8**
**East**
**1/2 - 1 Mile**
**Lower**

**CA WELLS** **CADWR9000006107**

| | | | |
|---|---|---|---|
| State Well #: | 03S01E10N001S | Station ID: | 26103 |
| Well Name: | Not Reported | Basin Name: | San Gorgonio Pass |
| Well Use: | Unknown | Well Type: | Unknown |
| Well Depth: | 0 | Well Completion Rpt #: | Not Reported |

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**D9**
**ESE**
**1/2 - 1 Mile**
**Lower**

**CA WELLS** **2343**

| | | | |
|---|---|---|---|
| Seq: | 2343 | Prim sta c: | 02S/01E-33J03 S |
| Frds no: | 3310006003 | County: | 33 |
| District: | 14 | User id: | WAT |
| System no: | 3310006 | Water type: | G |
| Source nam: | WELL 03 | Station ty: | WELL/AMBNT/MUN/INTAKE |
| Latitude: | 335500.0 | Longitude: | 1165235.0 |
| Precision: | 3 | Status: | AR |
| Comment 1: | Not Reported | Comment 2: | Not Reported |
| Comment 3: | Not Reported | Comment 4: | Not Reported |
| Comment 5: | Not Reported | Comment 6: | Not Reported |
| Comment 7: | Not Reported | | |

| | | | |
|---|---|---|---|
| System no: | 3310006 | System nam: | Banning, City Of |
| Hqname: | Not Reported | Address: | P.O. Box 998 |
| City: | Banning | State: | CA |
| Zip: | 92220 | Zip ext: | Not Reported |

| | | | |
|---|---|---|---|
| Pop serv: | 24500 | Connection: | 7400 |
| Area serve: | BANNING | | |
| Sample date: | 27-APR-16 | Finding: | 1.8 |
| Chemical: | NITRATE (AS N) | Report units: | MG/L |
| Dlr: | 0.4 | | |
| Sample date: | 29-APR-15 | Finding: | 7.7 |
| Chemical: | NITRATE (AS NO3) | Report units: | MG/L |
| Dlr: | 2. | | |
| Sample date: | 13-MAR-14 | Finding: | 270. |
| Chemical: | BICARBONATE ALKALINITY | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 250. |
| Chemical: | HARDNESS (TOTAL) AS CACO3 | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 59. |
| Chemical: | CALCIUM | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 26. |
| Chemical: | MAGNESIUM | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 29. |
| Chemical: | SODIUM | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 3.4 |
| Chemical: | POTASSIUM | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 15. |
| Chemical: | CHLORIDE | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 50. |
| Chemical: | SULFATE | Report units: | MG/L |
| Dlr: | 0.5 | | |
| Sample date: | 13-MAR-14 | Finding: | 150. |
| Chemical: | IRON | Report units: | UG/L |
| Dlr: | 100. | | |
| Sample date: | 13-MAR-14 | Finding: | 220. |
| Chemical: | TOTAL DISSOLVED SOLIDS | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 9.8 |
| Chemical: | NITRATE (AS NO3) | Report units: | MG/L |
| Dlr: | 2. | | |
| Sample date: | 13-MAR-14 | Finding: | 0.78 |
| Chemical: | TURBIDITY, LABORATORY | Report units: | NTU |
| Dlr: | 0.1 | | |
| Sample date: | 13-MAR-14 | Finding: | 4.24 |
| Chemical: | GROSS ALPHA | Report units: | PCI/L |
| Dlr: | 3. | | |

| | | | |
|---|---|---|---|
| Sample date: | 13-MAR-14 | Finding: | 1.45 |
| Chemical: | GROSS ALPHA COUNTING ERROR | Report units: | PCI/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 4.12 |
| Chemical: | URANIUM (PCI/L) | Report units: | PCI/L |
| Dlr: | 1. | | |
| Sample date: | 13-MAR-14 | Finding: | 1.24 |
| Chemical: | URANIUM COUNTING ERROR | Report units: | PCI/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 1.05 |
| Chemical: | GROSS ALPHA MDA95 | Report units: | PCI/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 0.3 |
| Chemical: | URANIUM MDA95 | Report units: | PCI/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 220. |
| Chemical: | ALKALINITY (TOTAL) AS CACO3 | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 7.3 |
| Chemical: | PH, LABORATORY | Report units: | Not Reported |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 600. |
| Chemical: | SPECIFIC CONDUCTANCE | Report units: | US |
| Dlr: | 0. | | |
| Sample date: | 13-MAR-14 | Finding: | 1.1 |
| Chemical: | FLUORIDE (F) (NATURAL-SOURCE) | Report units: | MG/L |
| Dlr: | 0.1 | | |
| Sample date: | 11-JUN-13 | Finding: | 5. |
| Chemical: | NITRATE (AS NO3) | Report units: | MG/L |
| Dlr: | 2. | | |
| Sample date: | 14-JUN-12 | Finding: | 3.3 |
| Chemical: | NITRATE (AS NO3) | Report units: | MG/L |
| Dlr: | 2. | | |

---

**D10**
**ESE**
**1/2 - 1 Mile**
**Lower**

**CA WELLS 2344**

| | | | |
|---|---|---|---|
| Seq: | 2344 | Prim sta c: | 02S/01E-33J04 S |
| Frds no: | 3310006002 | County: | 33 |
| District: | 14 | User id: | WAT |
| System no: | 3310006 | Water type: | G |
| Source nam: | WELL 02 | Station ty: | WELL/AMBNT/MUN/INTAKE |
| Latitude: | 335500.0 | Longitude: | 1165235.0 |
| Precision: | 3 | Status: | AR |
| Comment 1: | Not Reported | Comment 2: | Not Reported |
| Comment 3: | Not Reported | Comment 4: | Not Reported |
| Comment 5: | Not Reported | Comment 6: | Not Reported |
| Comment 7: | Not Reported | | |

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

| | | | |
|---|---|---|---|
| System no: | 3310006 | System nam: | Banning, City Of |
| Hqname: | Not Reported | Address: | P.O. Box 998 |
| City: | Banning | State: | CA |
| Zip: | 92220 | Zip ext: | Not Reported |
| Pop serv: | 24500 | Connection: | 7400 |
| Area serve: | BANNING | | |

| | | | |
|---|---|---|---|
| Sample date: | 27-APR-17 | Finding: | 1.9 |
| Chemical: | NITRATE (AS N) | Report units: | MG/L |
| Dlr: | 0.4 | | |

| | | | |
|---|---|---|---|
| Sample date: | 27-APR-16 | Finding: | 1.6 |
| Chemical: | NITRATE (AS N) | Report units: | MG/L |
| Dlr: | 0.4 | | |

| | | | |
|---|---|---|---|
| Sample date: | 24-MAR-16 | Finding: | 1.64 |
| Chemical: | GROSS ALPHA MDA95 | Report units: | PCI/L |
| Dlr: | 0. | | |

| | | | |
|---|---|---|---|
| Sample date: | 24-MAR-16 | Finding: | 1.08 |
| Chemical: | GROSS ALPHA COUNTING ERROR | Report units: | PCI/L |
| Dlr: | 0. | | |

| | | | |
|---|---|---|---|
| Sample date: | 25-FEB-16 | Finding: | 1.51 |
| Chemical: | GROSS ALPHA MDA95 | Report units: | PCI/L |
| Dlr: | 0. | | |

| | | | |
|---|---|---|---|
| Sample date: | 25-FEB-16 | Finding: | 1.59 |
| Chemical: | GROSS ALPHA COUNTING ERROR | Report units: | PCI/L |
| Dlr: | 0. | | |

| | | | |
|---|---|---|---|
| Sample date: | 25-FEB-16 | Finding: | 0.12 |
| Chemical: | TURBIDITY, LABORATORY | Report units: | NTU |
| Dlr: | 0.1 | | |

| | | | |
|---|---|---|---|
| Sample date: | 25-FEB-16 | Finding: | 330. |
| Chemical: | TOTAL DISSOLVED SOLIDS | Report units: | MG/L |
| Dlr: | 0. | | |

| | | | |
|---|---|---|---|
| Sample date: | 25-FEB-16 | Finding: | 1.1 |
| Chemical: | FLUORIDE (F) (NATURAL-SOURCE) | Report units: | MG/L |
| Dlr: | 0.1 | | |

| | | | |
|---|---|---|---|
| Sample date: | 25-FEB-16 | Finding: | 43. |
| Chemical: | SULFATE | Report units: | MG/L |
| Dlr: | 0.5 | | |

| | | | |
|---|---|---|---|
| Sample date: | 25-FEB-16 | Finding: | 14. |
| Chemical: | CHLORIDE | Report units: | MG/L |
| Dlr: | 0. | | |

| | | | |
|---|---|---|---|
| Sample date: | 25-FEB-16 | Finding: | 3.2 |
| Chemical: | POTASSIUM | Report units: | MG/L |
| Dlr: | 0. | | |

| | | | |
|---|---|---|---|
| Sample date: | 25-FEB-16 | Finding: | 24. |
| Chemical: | SODIUM | Report units: | MG/L |
| Dlr: | 0. | | |

| | | | |
|---|---|---|---|
| Sample date: | 25-FEB-16 | Finding: | 20. |
| Chemical: | MAGNESIUM | Report units: | MG/L |
| Dlr: | 0. | | |

| | | | |
|---|---|---|---|
| Sample date: | 25-FEB-16 | Finding: | 48. |
| Chemical: | CALCIUM | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 25-FEB-16 | Finding: | 210. |
| Chemical: | HARDNESS (TOTAL) AS CACO3 | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 25-FEB-16 | Finding: | 1.5 |
| Chemical: | NITRATE (AS N) | Report units: | MG/L |
| Dlr: | 0.4 | | |
| Sample date: | 25-FEB-16 | Finding: | 240. |
| Chemical: | BICARBONATE ALKALINITY | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 25-FEB-16 | Finding: | 200. |
| Chemical: | ALKALINITY (TOTAL) AS CACO3 | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 25-FEB-16 | Finding: | 7.3 |
| Chemical: | PH, LABORATORY | Report units: | Not Reported |
| Dlr: | 0. | | |
| Sample date: | 25-FEB-16 | Finding: | 540. |
| Chemical: | SPECIFIC CONDUCTANCE | Report units: | US |
| Dlr: | 0. | | |
| Sample date: | 29-APR-15 | Finding: | 6.8 |
| Chemical: | NITRATE (AS NO3) | Report units: | MG/L |
| Dlr: | 2. | | |
| Sample date: | 28-MAY-14 | Finding: | 9.5 |
| Chemical: | NITRATE (AS NO3) | Report units: | MG/L |
| Dlr: | 2. | | |
| Sample date: | 26-JUN-13 | Finding: | 150. |
| Chemical: | ALKALINITY (TOTAL) AS CACO3 | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 180. |
| Chemical: | BICARBONATE ALKALINITY | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 340. |
| Chemical: | SPECIFIC CONDUCTANCE | Report units: | US |
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 1.5 |
| Chemical: | GROSS ALPHA MDA95 | Report units: | PCI/L |
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 0.994 |
| Chemical: | GROSS ALPHA COUNTING ERROR | Report units: | PCI/L |
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 2.8 |
| Chemical: | NITRATE (AS NO3) | Report units: | MG/L |
| Dlr: | 2. | | |
| Sample date: | 26-JUN-13 | Finding: | 200. |
| Chemical: | TOTAL DISSOLVED SOLIDS | Report units: | MG/L |

| | | | |
|---|---|---|---|
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 0.8 |
| Chemical: | FLUORIDE (F) (NATURAL-SOURCE) | Report units: | MG/L |
| Dlr: | 0.1 | | |
| Sample date: | 26-JUN-13 | Finding: | 21. |
| Chemical: | SULFATE | Report units: | MG/L |
| Dlr: | 0.5 | | |
| Sample date: | 26-JUN-13 | Finding: | 3.7 |
| Chemical: | CHLORIDE | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 3.2 |
| Chemical: | POTASSIUM | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 11. |
| Chemical: | SODIUM | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 13. |
| Chemical: | MAGNESIUM | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 41. |
| Chemical: | CALCIUM | Report units: | MG/L |
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 7.6 |
| Chemical: | PH, LABORATORY | Report units: | Not Reported |
| Dlr: | 0. | | |
| Sample date: | 26-JUN-13 | Finding: | 150. |
| Chemical: | HARDNESS (TOTAL) AS CACO3 | Report units: | MG/L |
| Dlr: | 0. | | |

---

**C11**
**East**
**1/2 - 1 Mile**
**Lower**

**FED USGS** **USGS40000139015**

| | | | |
|---|---|---|---|
| Organization ID: | USGS-CA | | |
| Organization Name: | USGS California Water Science Center | | |
| Monitor Location: | 003S001E10N001S | Type: | Well |
| Description: | Not Reported | HUC: | 18100200 |
| Drainage Area: | Not Reported | Drainage Area Units: | Not Reported |
| Contrib Drainage Area: | Not Reported | Contrib Drainage Area Unts: | Not Reported |
| Aquifer: | Basin and Range basin-fill aquifers | | |
| Formation Type: | Not Reported | Aquifer Type: | Not Reported |
| Construction Date: | 19900910 | Well Depth: | 1130 |
| Well Depth Units: | ft | Well Hole Depth: | 1180 |
| Well Hole Depth Units: | ft | | |

| | | | |
|---|---|---|---|
| Ground water levels,Number of Measurements: | 12 | Level reading date: | 2004-10-28 |
| Feet below surface: | Not Reported | Feet to sea level: | Not Reported |
| Note: | The site was being pumped. | | |
| Level reading date: | 2004-04-21 | Feet below surface: | 546.15 |

| | | | |
|---|---|---|---|
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2003-11-20 | Feet below surface: | 542.2 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2003-04-29 | Feet below surface: | 538.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2002-04-24 | Feet below surface: | 499.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2001-11-06 | Feet below surface: | 495.8 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2001-05-16 | Feet below surface: | 493.0 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2000-10-25 | Feet below surface: | 490.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 2000-04-25 | Feet below surface: | 488.7 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1999-10-28 | Feet below surface: | 490.3 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1999-04-28 | Feet below surface: | 487.9 |
| Feet to sea level: | Not Reported | Note: | Not Reported |
| Level reading date: | 1996-09-17 | Feet below surface: | 493.88 |
| Feet to sea level: | Not Reported | Note: | Not Reported |

---

**C12**
**East**
**1/2 - 1 Mile**
**Lower**

**CA WELLS** **CADDW0000014314**

| | | | |
|---|---|---|---|
| Well ID: | 3310006-018 | Well Type: | MUNICIPAL |
| Source: | Department of Health Services | | |
| Other Name: | WELL C-06 | GAMA PFAS Testing: | Not Reported |
| Groundwater Quality Data: | https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3310006-018&store_num= | | |
| GeoTracker Data: | Not Reported | | |

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**C13**
**East**
**1/2 - 1 Mile**
**Lower**

**CA WELLS** **CAUSGS000002636**

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**C14**
**East**
**1/2 - 1 Mile**
**Lower**

**CA WELLS** **CAUSGSN00002474**

| | | | |
|---|---|---|---|
| Well ID: | USGS-335515116522801 | Well Type: | UNK |
| Source: | United States Geological Survey | | |
| Other Name: | USGS-335515116522801 | GAMA PFAS Testing: | Not Reported |
| Groundwater Quality Data: | https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-335515116522801&store_num= | | |

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

GeoTracker Data: Not Reported

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
# RADON

**AREA RADON INFORMATION**

State Database: CA Radon

Radon Test Results

| Zipcode | Num Tests | > 4 pCi/L |
|---|---|---|
| 92220 | 7 | 0 |

Federal EPA Radon Zone for RIVERSIDE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

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Federal Area Radon Information for Zip Code: 92220

Number of sites tested: 1

| Area | Average Activity | % <4 pCi/L | % 4-20 pCi/L | % >20 pCi/L |
|---|---|---|---|---|
| Living Area - 1st Floor | -1.000 pCi/L | 100% | 0% | 0% |
| Living Area - 2nd Floor | Not Reported | Not Reported | Not Reported | Not Reported |
| Basement | Not Reported | Not Reported | Not Reported | Not Reported |

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

## HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

## HYDROGEOLOGIC INFORMATION

AQUIFLOW$^{R}$ Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

## GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

## OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

**STREET AND ADDRESS INFORMATION**

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# APPENDIX E
# CREDENTIALS

# Sabrina, Chantler

## Assistant Geologist

## PROFESSIONAL EXPERIENCE

Ms. Chantler is an assistant geologist in Terracon's Colton, CA office, Environmental Department. Ms. Chantler's professional experience includes assisting Phase I Environmental Site Assessments (ESAs). These efforts involve field surveys, interviews with property owners, Environmental Data Resource reports, and file reviews at local county and city regulatory offices. As requires, each ESA is prepared and finalized in accordance with the new ASTM Standards.

## PROJECT EXPERIENCE

**Undeveloped/Vacant/Agricultural– California**

Assisted Phase I Environmental Site Assessment (ESA) report writing on undeveloped, vacant, and agricultural land. Performed site reconnaissance's on projects ranting on projects ranging from 5-acres to 50-acres for clients such as Navistar Inc. and real estate properties.

**Commercial Properties– California**

Performed site reconnaissance's, and assisted Project Managers on Environmental Site Assessments for commercial properties.

**Industrial Properties– California**

Performed site reconnaissance's, and assisted Project Managers on Environmental Site Assessments for industrial properties.

### EDUCATION

Bachelor of Science,
Environmental Science,
University of California,
Riverside, CA, 2021

Associate of Science,
Natural Science,
Orange Coast College,
Costa Mesa, CA, 2019

### WORK HISTORY

Terracon, Colton, California
Assistant Geologist
February 2022 to Present

Citrus Research Board/CASSA,
Riverside, CA,
Biological Technician
June 2021 to February 2022

# Resume

## Laura Hedman

**Staff Geologist**



### PROFESSIONAL EXPERIENCE

Ms. Hedman is a staff geologist in Terracon's Colton, CA office, Environmental Department. Ms. Hedman's professional experience includes Environmental Services, Phase I Environmental Site Assessments (ESAs), Limited Site Investigations (LSIs), soil and groundwater sampling, and groundwater monitoring projects. She has conducted site assessments on office facilities, warehouses, manufacturing facilities, automotive dealerships, restaurants, medical offices, telecommunication towers, vacant, and agricultural land. She prepares environmental site assessment reports; researches city directories and regulatory agency files; and reviews aerial photographs and topographic maps. In addition, she assists the Senior Project Manager in Phase I Environmental Site Assessments.

### PROJECT EXPERIENCE

**Office Buildings/Medical Office Building – California**

Project Manager and Environmental Site Assessments on office properties, which includes multi-story financial, educational, medical office buildings, and a 95,000-square-foot community hospital.

**Warehouse Buildings/Logistical Centers – California**

Project Manager and Environmental Site Assessment on warehouses and logistical centers, which includes commercial facilities with 1.2 million-square-foot warehousing space.

**Restaurants/Retail Buildings – California**

Project Manager and Environmental Site Assessment on family-style restaurants, and retail lease spaces.

**Auto Dealership/Automotive Service– California**

Project Manager and Environmental Site Assessment on automotive dealerships, automotive maintenance facilities, and automotive collision repair centers.

**Undeveloped/Vacant/Agricultural – California**

Project Manager and Environmental Site Assessments on undeveloped, vacant, and agricultural land; from less than one-acre- to over 200-acre parcel of land.

### EDUCATION

Bachelor of Science, Geology/Earth Science, University of California, Riverside, 2016

Mount San Jacinto College
Associate of Science, Geographic Information Systems (GIS), May 2014

### CERTIFICATIONS

Geologist in Training (Fundamental of Geology), June 2017

### PROFESSIONAL TRAINING

40-Hour OHSA HAZWOPER

24-Hour AHERA Asbestos Abatement Building Inspector

40-Hour AHERA Asbestos Supervisor Training

### WORK HISTORY

Terracon, Colton, California
Staff Geologist
January 2018 to Present

United States Army, Master Sergeant, Retired;
Recruiting Battalion Operations Senior NonCommissioned Officer/ Senior Career Counselor
August 1988 to February 2011

# Jennifer S. Van

**Project Manager / Environmental Group Manager**



## PROFESSIONAL EXPERIENCE

Ms. Van is an Environmental Group Manager in Terracon's Carson, Los Angeles County, California Office. She has over 10 years of experience in of environmental consulting experience including environmental Services; Phase I Environmental Site Assessments (ESAs), Limited Subsurface Investigations (LSIs), Spill Prevention, Control and Countermeasure Plans, regulatory compliance and Radon Measurement Provider. She possesses excellent organization, analytical, advisory and team management skills.

Ms. Van's team managements due diligence services throughout California and has vast experience in renewable energy, healthcare, commercial and residential types of projects.

## PROJECT EXPERIENCE

**Environmental Site Assessment (ESAs):**

Performed and managed over 2,000 ESAs in California and several in Hawaii and Alaska for industrial, commercial, residential, and agricultural properties. Managed long-term national accounts for financial institutions (equity and loan portfolios), real estate investment trusts, developers and other real property owners. Understands facility operating systems; state and federal regulations; and fate and transport of chemicals through air, soil, vapor, surface water and groundwater. Is experienced in the performance of ESAs under the All Appropriate Inquiry rules (ASTM 1527-13), and meets the requirements of an Environmental Professional as defined in Section 312.10 of 40 CFR 312.

**Radon Assessments**

Performed and managed over 10 radon assessments including commercial and residential in California.

**Limited Subsurface Investigations (LSIs):**

Performed and managed over 10 LSI's in California. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data.

### EDUCATION

Bachelor of Science,
Environmental Sciences: Natural Sciences.
Minor: Business Administration
University of California Riverside, California, 2011.

Masters: Environmental Engineering
California State University, Fullerton, 2018

### CERTIFICATIONS

24-Hour AHERA Asbestos Abatement Building Inspector
40-Hour OSHA HAZWOPER
National Radon Proficiency Program
Residential Measurement Provider

### WORK HISTORY

Terracon Consultants, Inc. (Tustin, CA). Environmental Group Manager
February 2018 to Present

Terracon Consultants, Inc. (Irvine, CA). Senior Staff Scientist
2014 to February 2018

Terracon Consultants, Inc. (Irvine, CA). Staff Scientist
August 2011 to 2014

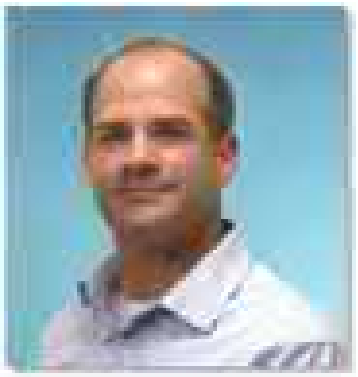
**Spill Prevention, Control And Countermeasure Plans (SPCCs)**
Ms. Van has experience with federal and state requirements for Spill Prevention, Control and Countermeasure Plans for Tier I and II qualified facilities.

**Regulatory Compliance, Buena Park and Tipton, California**
Project Manager for two regulatory compliance projects in Buena Park and Tipton, California, which included refrigeration and multiple dairy facilities.

**Military Base Phase I ESAs and Soil Management Plans – San Diego County, California**
Project Manager of ESAs and SMPs of over 100 sites for proposed telecommunication small cell locations within naval bases located within the San Diego County. Findings of the ESAs were utilized in creation of the SMPs, which was implemented at the installation of telecommunications utilities on the various bases.

**Automotive Body Shop Portfolio, California**
Portfolio assistant manager of environmental consulting services including Phase I ESA. The purpose of the services were to assist a client with a large acquisition of properties.

# Todd G. McFarland, PG, CHG



## DEPARTMENT MANAGER

## PROFESSIONAL EXPERIENCE

Mr. McFarland has over 21 years of experience as a professional geologist and hydrogeologist, in over 200 site characterization and remediation projects throughout California. He is an environmental Department Manager for Terracon's Colton office. Mr. McFarland has been involved with environmental investigations, well design and construction, aquifer testing, Phase I and II ESAs, including agricultural, petroleum, and industrial properties; and remediation design and mitigation for commercial, industrial and LUST/LUFT projects.

Mr. McFarland's expertise includes hydrogeology, Phase I & II Environmental Assessments, Hazardous Waste Site Investigations, LUST/LUFT Site Investigation and Remediation (soil, vapor, and groundwater) Hydrogeology, Contaminant Fate & Transport, Well Design and Construction, Remedial Strategy and Design, California UST Cleanup Fund, Triad Approach Investigation Methods, and high resolution site characterization (HRSC).

## PROJECT EXPERIENCE

**Charis Corporation/US Army, Aquifer and Well Evaluation, Fort Irwin, California**
Project Geologist for the identification, assessment and testing of domestic and agricultural wells associated with the expansion of Ft. Irwin military base. Responsible for field mapping, staff and logistics coordination, subcontractor management, well pumping, mine shaft mapping and collection of samples for heavy metal analytical testing.

**Bechtel, Mountain View Power Plant Expansion Project, Loma Linda, California**
Project Geologist support for pump test and analytical testing of new production well within the Bunker Hill Basin. Sampling and testing of water for Title 22, perchlorate and TCE to determine well viability, and ability to discharge surplus water to Santa Ana River.

**Herzog, Rail Line Rehabilitation Project, San Bernardino, California**
Project Geologist for compliance monitoring, soil sampling and remediation management of soils during rail line rehabilitation. Project work conducted for BNSF under their oversight and safety management guidelines. Managed daily soil screening, mobile laboratory analysis oversight and directed soil excavation and segregation for offsite disposal of hydrocarbon and solvent impacted soils.

**Amtrak, 8th Street Amtrak Yard ROW Investigation, Los Angeles, California**
Project Geologist for Phase I & II assessments along ROWs within the active rail yard for proposed ROW exchange. Project work included drilling and soil sampling adjacent to active rail lines associated with train maintenance and wash rack. Reporting and recommendations for soil remediation options.

## EDUCATION

Bachelor of Science, Hydrogeology, Northern Arizona University, 1998

AA, Art/Architecture, Pasadena City College, 1992

## REGISTRATIONS

California Professional Geologist, PG #7685

California Certified Hydrogeologist, CHG #979

## CERTIFICATIONS

GIS Certification, University of California, Riverside, 2017

40-Hour OSHA Hazardous Materials Training

8-Hour OSHA Supervisory and Confined Space Training

8-Hour LPS/OSHA Refresher (current)

CPR/First Aid Certified (current)

LPS 8-Hour Training Certification, 5/2006

16-Hour Chevron EMC CSOC Training, 11/2007

Defensive Driving Course, 6/2006

DOT-Basic HazMat Training, 5/2007

Title 22 California-Hazardous Waste Generator Training, 5/2007

Lean Six Sigma Training, 3/2011

Cost Engineering and Cost Loaded Scheduling and Training, 4/2011 & 3/2012

## WORK HISTORY

Terracon Consultants, Inc., Department Manager, 2018-Present

AECOM, Sr. Project Manager/Sr. Hydrogeologist, 2013-2018

HFA, Sr. Geologist/Sr. Project Manager, 2009-2013, Assoc. Geologist/Sr. Geologist/Project Manager/Office Manager, 2004-2009

Geo-Cal, Inc., Project Geologist, 2003 – 2004

CHJ, Inc., Staff Geologist, 1998-2003

**Chevron and ExxonMobil, Service Station and Terminal Facility Management, Southern and Northern California**
Project/Senior Geologist and Project Manager for portfolio of underground storage tank facilities. Managed schedule, costs and project work for numerous retail service station and bulk tank facilities. Scoped and executed assessment and remedial efforts targeted to model and remove contaminants. Geological logging and drilling oversight for the installation of numerous shallow and deep monitoring wells within unconsolidated and over-consolidated soils. Develop and execute aquifer, soil vapor extraction, and air sparge testing to determine feasibility of remedial options. Prepare conceptual site models to evaluate project data and develop remedial action plans and human health risk assessments. Collaborate with engineers to design, build and execute remedial systems for treatment of petroleum impacted soil and groundwater. Responsible for direct interaction with client and regulators to develop and execute strategies.

**Chevron EMC, MTBE Groundwater Plume Investigation and Remediation, San Juan Capistrano California**
Senior Geologist and Project Manager for two underground storage tank facilities that allegedly affected the City's water production supply. Scoped and executed assessment and remedial efforts targeted to model and remove benzene and MTBE. Installed and operated in-situ soil and groundwater remedial systems. Geological logging and drilling oversight for the installation of numerous shallow and deep monitoring and remediation wells. Testing and evaluation of City's production wells. Attend and participate in public hearings, plan and participate in planning and design review meetings. Conduct client meetings and provide project details to client's legal team.

**Confidential Client, Crafton-Redlands Perchlorate Plume Investigation, Mentone, California**
Project Geologist for underground storage tank facility. Geological logging and drilling oversight for the installation of deep monitoring wells within the Crafton-Redlands Plume using rotary casing hammer and sonic drilling rigs. Collection of soil and groundwater samples to evaluation aquifer for petroleum hydrocarbons, including MTBE and perchlorate. Conduct soil vapor extraction pilot testing for in-situ soil remediation of hydrocarbon impacts.

**City of Rialto, Landfill Investigation and Post-Closure Monitoring, Rialto, California.** Project Geologist for landfill closure and post-closure investigations and monitoring. On going monitoring of water quality beneath and surrounding the boundary limits of landfill. Statistical analysis and reporting of water quality data to determine trends and stability post-closure.

**City of Los Angeles, Community Park Development, Lead Removal, California**
Project Geologist for development of a community park. Planned, coordinated, and conducted assessment and remediation of aerial deposited lead within a residential community. Conducted lead dust monitoring, excavation activities and verification sampling and reporting.

**City of Blythe, Citywide Commingled Plume Investigation, Blythe, California**
Project Manager for city wide commingled plume assessment and remedial cleanup of 7 commingled plumes (over 30 individual sites) related to petroleum releases to groundwater. Conducted large-scale site assessment, well installation and remedial actions including soil vapor extraction, dual-phase extraction, free-product extraction and soil excavation. Managed complex financial contract and UST Cleanup Fund reimbursement. Responsible for direct interaction with client (City), UST Cleanup Fund and California's Water Board to develop and execute strategies.

**AFCEC, Industrial Waste Line Removal and Vapor Intrusion Risk Assessment, Former Norton Air Force Base, San Bernardino, California**
Senior hydrogeologist for evaluation of soil and soil vapor sampling. Conducted closure report review, human health risk assessment modeling and evaluation, and closure recommendations. Evaluation and reporting resulted in obtaining closure from DTSC.

# APPENDIX F
# DESCRIPTION OF TERMS AND ACRONYMS

## Description of Selected General Terms and Acronyms

| Term/Acronym | Description |
|---|---|
| ACM | Asbestos Containing Material. Asbestos is a naturally occurring mineral, three varieties of which (chrysotile, amosite, crocidolite) have been commonly used as fireproofing or binding agents in construction materials. Exposure to asbestos, as well as ACM, has been documented to cause lung diseases including asbestosis (scarring of the lung), lung cancer and mesothelioma (a cancer of the lung lining).<br><br>Regulatory agencies have generally defined ACM as a material containing greater that one (1) percent asbestos, however some states (e.g. California) define ACM as materials having 0.1% asbestos. In order to define a homogenous material as non-ACM, a minimum number of samples must be collected from the material dependent upon its type and quantity. Homogenous materials defined as non-ACM must either have 1) no asbestos identified in all of its samples or 2) an identified asbestos concentration below the appropriate regulatory threshold. Asbestos concentrations are generally determined using polarized light microscopy or transmission electron microscopy. Point counting is an analytical method to statistically quantify the percentage of asbestos in a sample. The asbestos component of ACM may either be friable or non-friable. Friable materials, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and have a higher potential for a fiber release than non-friable ACM. Non-friable ACM are materials that are firmly bound in a matrix by plastic, cement, etc. and, if handled carefully, will not become friable.<br><br>Federal and state regulations require that either all suspect building materials be presumed ACM or that an asbestos survey be performed prior to renovation, dismantling, demolition, or other activities that may disturb potential ACM. Notifications are required prior to demolition and/or renovation activities that may impact the condition of ACM in a building. ACM removal may be required if the ACM is likely to be disturbed or damaged during the demolition or renovation. Abatement of friable or potentially friable ACM must be performed by a licensed abatement contractor in accordance with state rules and NESHAP. Additionally, OSHA regulations for work classification, worker training and worker protection will apply. |
| AHERA | Asbestos Hazard Emergency Response Act |
| AST | Aboveground Storage Tanks. ASTs are generally described as storage tanks less than 10% of which are below ground (i.e., buried). Tanks located in a basement, but not buried, are also considered ASTs. Whether, and the extent to which, an AST is regulated, is determined on a case-by-case basis and depends upon tank size, its contents and the jurisdiction of its location. |
| BGS | Below Ground Surface |
| Brownfields | State and/or tribal listing of Brownfield properties addressed by Cooperative Agreement Recipients or Targeted Brownfields Assessments. |
| BTEX | Benzene, Toluene, Ethylbenzene, and Xylenes. BTEX are VOC components found in gasoline and commonly used as analytical indicators of a petroleum hydrocarbon release. |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act (a.k.a. Superfund). CERCLA is the federal act that regulates abandoned or uncontrolled hazardous waste sites. Under this Act, joint and several liability may be imposed on potentially responsible parties for cleanup-related costs. |
| CERCLIS | Comprehensive Environmental Response, Compensation and Liability Information System. An EPA compilation of sites having suspected or actual releases of hazardous substances to the environment. CERCLIS also contains information on site inspections, preliminary assessments and remediation of hazardous waste sites. These sites are typically reported to EPA by states and municipalities or by third parties pursuant to CERCLA Section 103. |
| CESQG | Conditionally Exempt Small Quantity Generators |
| CFR | Code of Federal Regulations |

## Description of Selected General Terms and Acronyms

| Term/Acronym | Description |
|---|---|
| CREC | Controlled Recognized Environmental Condition is defined in ASTM E1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority) , with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report." |
| DOT | U.S. Department of Transportation |
| EPA | U.S. Environmental Protection Agency |
| ERNS | Emergency Response Notification System. An EPA-maintained federal database which stores information on notifications of oil discharges and hazardous substance releases in quantities greater than the applicable reportable quantity under CERCLA. ERNS is a cooperative data-sharing effort between EPA, DOT, and the National Response Center. |
| ESA | Environmental Site Assessment |
| FRP | Fiberglass Reinforced Plastic |
| Hazardous Substance | As defined under CERCLA, this is (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title; (C) any hazardous waste having characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (with some exclusions); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action under section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise listed as a hazardous substance under subparagraphs (A) through (F) above, and the term include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). |
| Hazardous Waste | This is defined as having characteristics identified or listed under section 3001 of the Solid Waste Disposal Act (with some exceptions). RCRA, as amended by the Solid Waste Disposal Act of 1980, defines this term as a "solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed." |
| HREC | Historical Recognized Environmental Condition is defined in ASTM E1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition." |

## Description of Selected General Terms and Acronyms

| Term/Acronym | Description |
|---|---|
| IC/EC | A listing of sites with institutional and/or engineering controls in place. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health. |
| ILP | Innocent Landowner/Operator Program |
| LQG | Large Quantity Generators |
| LUST | Leaking Underground Storage Tank. This is a federal term set forth under RCRA for leaking USTs. Some states also utilize this term. |
| MCL | Maximum Contaminant Level. This Safe Drinking Water concept (and also used by many states as a ground water cleanup criteria) refers to the limit on drinking water contamination that determines whether a supplier can deliver water from a specific source without treatment. |
| MSDS | Material Safety Data Sheets. Written/printed forms prepared by chemical manufacturers, importers and employers which identify the physical and chemical traits of hazardous chemicals under OSHA's Hazard Communication Standard. |
| NESHAP | National Emissions Standard for Hazardous Air Pollutants (Federal Clean Air Act). This part of the Clean Air Act regulates emissions of hazardous air pollutants. |
| NFRAP | Facilities where there is "No Further Remedial Action Planned," as more particularly described under the Records Review section of this report. |
| NOV | Notice of Violation. A notice of violation or similar citation issued to an entity, company or individual by a state or federal regulatory body indicating a violation of applicable rule or regulations has been identified. |
| NPDES | National Pollutant Discharge Elimination System (Clean Water Act). The federal permit system for discharges of polluted water. |
| NPL | The NPL is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program. |
| OSHA | Occupational Safety and Health Administration or Occupational Safety and Health Act |
| PACM | Presumed Asbestos-Containing Material. A material that is suspected of containing or presumed to contain asbestos but which has not been analyzed to confirm the presence or absence of asbestos. |
| PCB | Polychlorinated Biphenyl. A halogenated organic compound commonly in the form of a viscous liquid or resin, a flowing yellow oil, or a waxy solid. This compound was historically used as dielectric fluid in electrical equipment (such as electrical transformers and capacitors, electrical ballasts, hydraulic and heat transfer fluids), and for numerous heat and fire sensitive applications. PCB was preferred due to its durability, stability (even at high temperatures), good chemical resistance, low volatility, flammability, and conductivity. PCBs, however, do not break down in the environment and are classified by the EPA as a suspected carcinogen. 1978 regulations, under the Toxic Substances Control Act, prohibit manufacturing of PCB-containing equipment; however, some of this equipment may still be in use today. |
| pCi/L | picoCuries per Liter of Air. Unit of measurement for Radon and similar radioactive materials. |
| PLM | Polarized Light Microscopy (see ACM section of the report, if included in the scope of services) |
| PST | Petroleum Storage Tank. An AST or UST that contains a petroleum product. |

## Description of Selected General Terms and Acronyms

| Term/Acronym | Description |
|---|---|
| Radon | A radioactive gas resulting from radioactive decay of naturally-occurring radioactive materials in rocks and soils containing uranium, granite, shale, phosphate, and pitchblende. Radon concentrations are measured in picoCuries per Liter of Air. Exposure to elevated levels of radon creates a risk of lung cancer; this risk generally increases as the level of radon and the duration of exposure increases. Outdoors, radon is diluted to such low concentrations that it usually does not present a health concern. However, radon can accumulate in building basements or similar enclosed spaces to levels that can pose a risk to human health. Indoor radon concentrations depend primarily upon the building's construction, design and the concentration of radon in the underlying soil and ground water. The EPA recommended annual average indoor "action level" concentration for residential structures is 4.0 pCi/l. |
| RCRA | Resource Conservation and Recovery Act. Federal act regulating solid and hazardous wastes from point of generation to time of disposal ('cradle to grave"). 42 U.S.C. 6901 et seq. |
| RCRA Generators | The RCRA Generators database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as either large (LQG), small (SQG), or conditionally exempt (CESQG). LQG produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQG produce 100-1000 kg/month of non-acutely hazardous waste. CESQG are those that generate less than 100 kg/month of non-acutely hazardous waste. |
| RCRA CORRACTS/TSDs | The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials which are undergoing "corrective action". A "corrective action" order is issued when there is a release of hazardous waste or constituents into the environment from a RCRA facility. |
| RCRA Non-CORRACTS/TSDs | The RCRA Non-CORRACTS/TSD Database is a compilation by the USEPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required. |
| RCRA Violators List | RAATS. RCRA Administrative Actions Taken. RAATS information is now contained in the RCRIS database and includes records of administrative enforcement actions against facilities for noncompliance. |
| RCRIS | Resource Conservation and Recovery Information System, as defined in the Records Review section of this report. |
| REC | Recognized Environmental Conditions are defined by ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment. De minimis conditions are not recognized environmental conditions." |
| SCL | State "CERCLIS" List (see SPL /State Priority List, below). |
| SPCC | Spill Prevention, Control and Countermeasures. SPCC plans are required under federal law (Clean Water Act and Oil Pollution Act) for any facility storing petroleum in tanks and/or containers of 55-gallons or more that when taken in aggregate exceed 1,320 gallons. SPCC plans are also required for facilities with underground petroleum storage tanks with capacities of over 42,000 gallons. Many states have similar spill prevention programs, which may have additional requirements. |
| SPL | State Priority List. State list of confirmed sites having contamination in which the state is actively involved in clean up activities or is actively pursuing potentially responsible parties for clean up. Sometimes referred to as a State "CERCLIS" List. |
| SQG | Small Quantity Generator |
| SWF/LF | State and/or Tribal database of Solid Waste/Landfill facilities. The database information may include the facility name, class, operation type, area, estimated operational life, and owner. |
| TPH | Total Petroleum Hydrocarbons |
| TRI | Toxic Release Inventory. Routine EPA report on releases of toxic chemicals to the environment based upon information submitted by entities subject to reporting under the Emergency Planning and Community Right to Know Act. |

## Description of Selected General Terms and Acronyms

| Term/Acronym | Description |
|---|---|
| TSCA | Toxic Substances Control Act. A federal law regulating manufacture, import, processing and distribution of chemical substances not specifically regulated by other federal laws (such as asbestos, PCBs, lead-based paint and radon). 15 U.S.C 2601 et seq. |
| USACE | United States Army Corps of Engineers |
| USC | United States Code |
| USGS | United States Geological Survey |
| USNRCS | United States Department of Agriculture-Natural Resource Conservation Service |
| UST | Underground Storage Tank. Most federal and state regulations, as well as ASTM E1527-13, define this as any tank, incl., underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground (i.e., buried). |
| VCP | State and/or Tribal facilities included as Voluntary Cleanup Program sites. |
| VOC | Volatile Organic Compound |
| Wetlands | Areas that are typically saturated with surface or ground water that creates an environment supportive of wetland vegetation (i.e., swamps, marshes, bogs). The Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) defines wetlands as areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. For an area to be considered a jurisdictional wetland, it must meet the following criteria: more than 50 percent of the dominant plant species must be categorized as Obligate, Facultative Wetland, or Facultative on lists of plant species that occur in wetlands; the soil must be hydric; and, wetland hydrology must be present.<br><br>The federal Clean Water Act which regulates “waters of the US,” also regulates wetlands, a program jointly administered by the USACE and the EPA. Waters of the U.S. are defined as: (1) waters used in interstate or foreign commerce, including all waters subject to the ebb and flow of tides; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, etc., which the use, degradation, or destruction could affect interstate/ foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U. S., (5) tributaries of waters identified in 1 through 4 above; (6) the territorial seas; and (7) wetlands adjacent to waters identified in 1 through 6 above. Only the USACE has the authority to make a final wetlands jurisdictional determination. |

# RIVERSIDE COUNTY
# AIRPORT LAND USE COMMISSION

October 5, 2023

Emery Papp, Project Planner
City of Banning Community Development Department – Planning Division
99 E. Ramsey Street
Banning, CA 92220

**CHAIR**
**Steve Manos**
Lake Elsinore

**VICE CHAIR**
**Russell Betts**
Desert Hot Springs

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**Director**
**Paul Rull**

Simon A. Housman
Barbara Santos
Jackie Vega

County Administrative Center
4080 Lemon St., 14th Floor
Riverside, CA 92501
(951) 955-5132

www.rcaluc.org

**RE: AIRPORT LAND USE COMMISSION (ALUC) DEVELOPMENT REVIEW – DIRECTOR'S DETERMINATION**

| | |
|---|---|
| File No.: | ZAP1049BA23 |
| Related File No.: | GPA23-2502 (General Plan Amendment), CZ3502 (Change of Zone) DR23-7008 (Design Review) |
| APNs: | 540-180-020, 540-180-022, 540-180-026 |

Dear Mr. Papp,

Under the delegation of the Riverside County Airport Land Use Commission (ALUC) pursuant to Policy 1.5.2(d) of the Countywide Policies of the 2004 Riverside County Airport Land Use Compatibility Plan, staff reviewed City of Banning Case No. DR23-7008 (Design Review), a proposal to construct a 46,944 square foot manufacturing building on on 15.79 acres located northerly of Lincoln Street, westerly of Eighth Street, and southerly of the I-10 Freeway. The applicant also proposes changing the westerly portion of the site's (which is located outside the airport influence area) land use designation and zoning from General Commercial to Industrial. The project does not propose any legislative actions within the airport influence area Zone D.

The portion of the site is located within Airport Compatibility Zone D of the Banning Municipal Airport Influence Area (AIA). Zone D restricts non-residential intensity to 200 people per average acre and 800 people per single acre. The project does not propose any buildings within the Zone D portion of the site, therefore no occupancy will be generated.

The elevation of Runway 8-26 at its westerly terminus is 2,119 feet above mean sea level (AMSL). At a distance of approximately 9,000 feet from the runway to the site, Federal Aviation Administration Obstruction Evaluation Service (FAA OES) review would be required for any structures with top of roof exceeding 2,209 feet AMSL. The site's finished floor elevation is 2,390 feet AMSL and the proposed building height is 37 feet, resulting in a top point elevation of 2,427 feet AMSL. Therefore, FAA Obstruction Evaluation Service review for height/elevation reasons was required. However, since the building is located outside the airport influence area, the FAA OES review will be conditioned to be done prior to building permit.

Land use practices that attract or sustain hazardous wildlife populations on or near airports significantly increase the potential of Bird Aircraft Strike Hazards (BASH). The FAA strongly recommends that storm water management systems located within 5,000 or 10,000 feet of the Airport Operations Area, depending on the type of aircraft, be designed and operated so as not to create above-ground standing water. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins. All vegetation in and around detention basins that provide food or cover for hazardous wildlife should be eliminated. (FAA Advisory Circular 5200-33C).

Although the nearest portion of the proposed project is located within 10,000 feet of the runway (approximately 9,098 feet), the project utilizes underground infiltration systems which will not

contain surface water or attract wildlife and, therefore, would not constitute a hazard to flight.

As ALUC Director, I hereby find the above-referenced project **CONSISTENT** with the 2004 Banning Municipal Airport Land Use Compatibility Plan, as amended in 2016, provided that the City of Banning applies the following recommended conditions:

**CONDITIONS:**

1. Any outdoor lighting installed shall be hooded or shielded to prevent either the spillage of lumens or reflection into the sky. Outdoor lighting shall be downward facing.

2. The following uses shall be prohibited:

   (a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

   (b) Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.

   (c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, outdoor production of cereal grains, sunflower, and row crops, composting operations, wastewater management facilities, artificial marshes, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, fly ash disposal, and incinerators.)

   (d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

   (e) Highly noise-sensitive outdoor nonresidential uses.

   (f) Any use which results in a hazard to flight, including physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations.

3. The attached "Notice of Airport in Vicinity" shall be provided to all prospective purchasers and occupants of the property and be recorded as a deed notice.

4. Any proposed stormwater basins or facilities shall be designed and maintained to provide for a maximum 48-hour detention period following the design storm, and remain totally dry between rainfalls. Vegetation in and around the basins that would provide food or cover for birds would be incompatible with airport operations and shall not be utilized in project landscaping. Trees shall be spaced so as to prevent large expanses of contiguous canopy, when mature. Landscaping in and around the basin(s) shall not include trees or shrubs that produce seeds, fruits, or berries.

   Landscaping in the stormwater basin, if not rip-rap, should be in accordance with the guidance provided in ALUC "LANDSCAPING NEAR AIRPORTS" brochure, and the "AIRPORTS, WILDLIFE AND STORMWATER MANAGEMENT" brochure available at RCALUC.ORG which list acceptable plants from Riverside County Landscaping Guide or other alternative landscaping as may be recommended by a qualified wildlife hazard biologist.

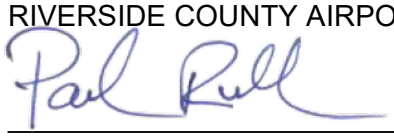
A notice sign, in a form similar to that attached hereto, shall be permanently affixed to the stormwater basin with the following language: “There is an airport nearby. This stormwater basin is designed to hold stormwater for only 48 hours and not attract birds. Proper maintenance is necessary to avoid bird strikes”. The sign will also include the name, telephone number or other contact information of the person or entity responsible to monitor the stormwater basin.

5. This project has been evaluated as consisting of a 46,944 square foot manufacturing building. Any increase in building area, change in use to any higher intensity use, change in building location, or modification of the tentative parcel map lot lines and areas will require an amended review to evaluate consistency with the ALUCP criteria**,** at the discretion of the ALUC Director.

6. Prior to building permit issuance, the project shall be submitted to the Federal Aviation Administration Obstruction Evaluation Service for their review and issuance of their Determination of No Hazard to Air Navigation letter.

If you have any questions, please contact me at (951) 955-6893.

Sincerely,
RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION



Paul Rull, ALUC Director

Attachment: Notice of Airport in Vicinity

cc: Sagecrest Planning Environmental (applicant/representative)
Brown Strauss, Inc (property owner)
Art Vela, P.E., City of Banning Director of Public Works
Carl Szoyka, Manager, Banning Municipal Airport
ALUC Case File

X:\AIRPORT CASE FILES\Banning\ZAP1049BA23\ZAP1049BA23.LTR.doc

# NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances [can vary from person to person. You may wish to consider what airport annoyances], if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you. Business & Professions Code Section 11010 (b)(13)(A)

# NOTICE

## THERE IS AN AIRPORT NEARBY.

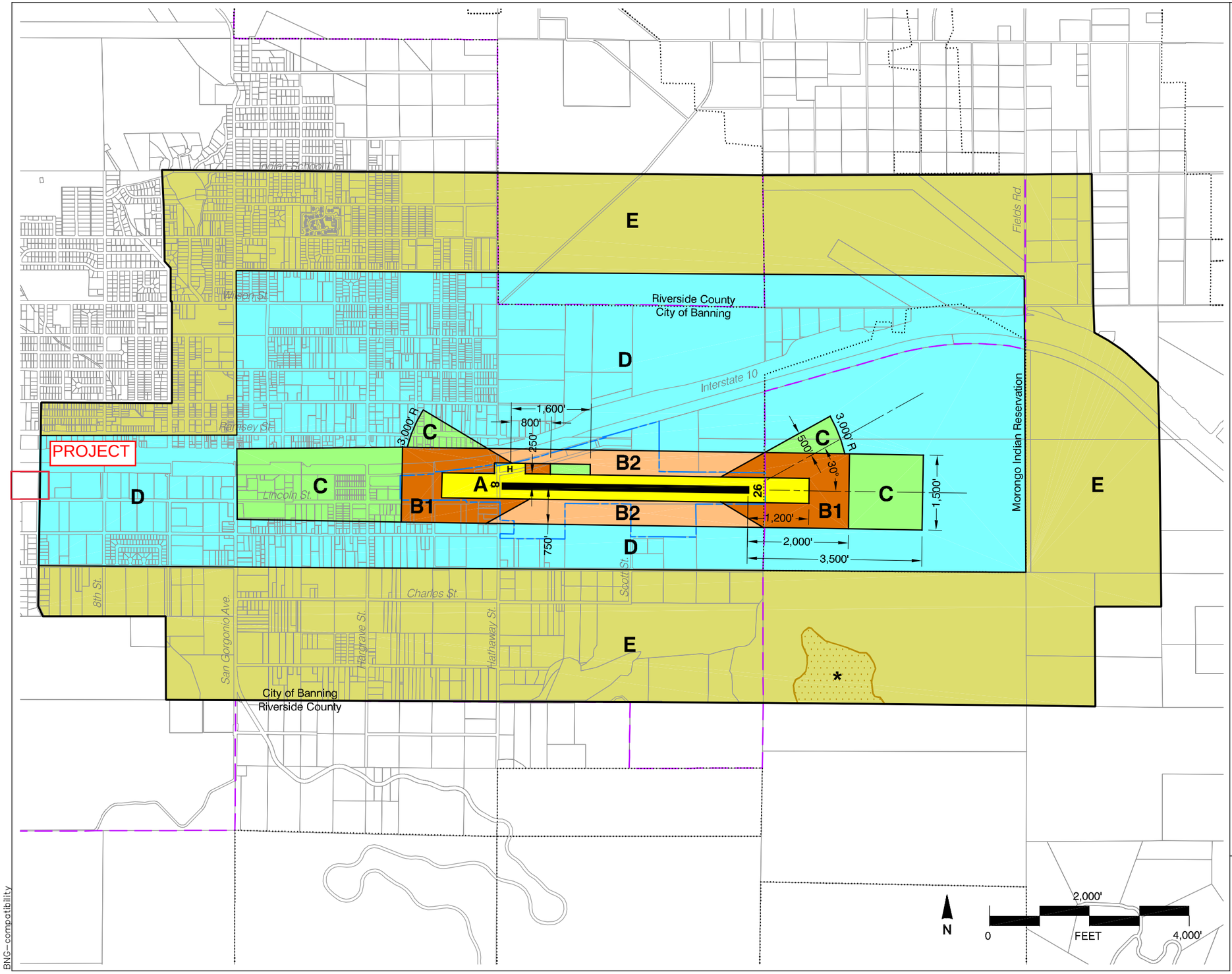
## THIS STORM WATER BASIN IS DESIGNED TO HOLD STORM WATER FOR ONLY 48 HOURS AND NOT TO ATTRACT BIRDS

## PROPER MAINTENANCE IS NECESSARY TO AVOID BIRD STRIKES

RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION ALUC

IF THIS BASIN IS OVERGROWN, PLEASE CONTACT:

Name: _____ Phone: _____




## Legend

### Compatibility Zones

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C
- Zone D
- Zone E
- Height Review Overlay Zone

### Boundary Lines

- Airport Property Line
- City Limits
- Morongo Indian Reservation

### Note

Dimensions measured from runway ends and centerlines.

See Chapter 2, Table 2A for compatibility criteria associated with this map.

**Riverside County**
**Airport Land Use Commission**

***Riverside County***
***Airport Land Use Compatibility Plan***
***Policy Document***

***(Adopted October 2004)***

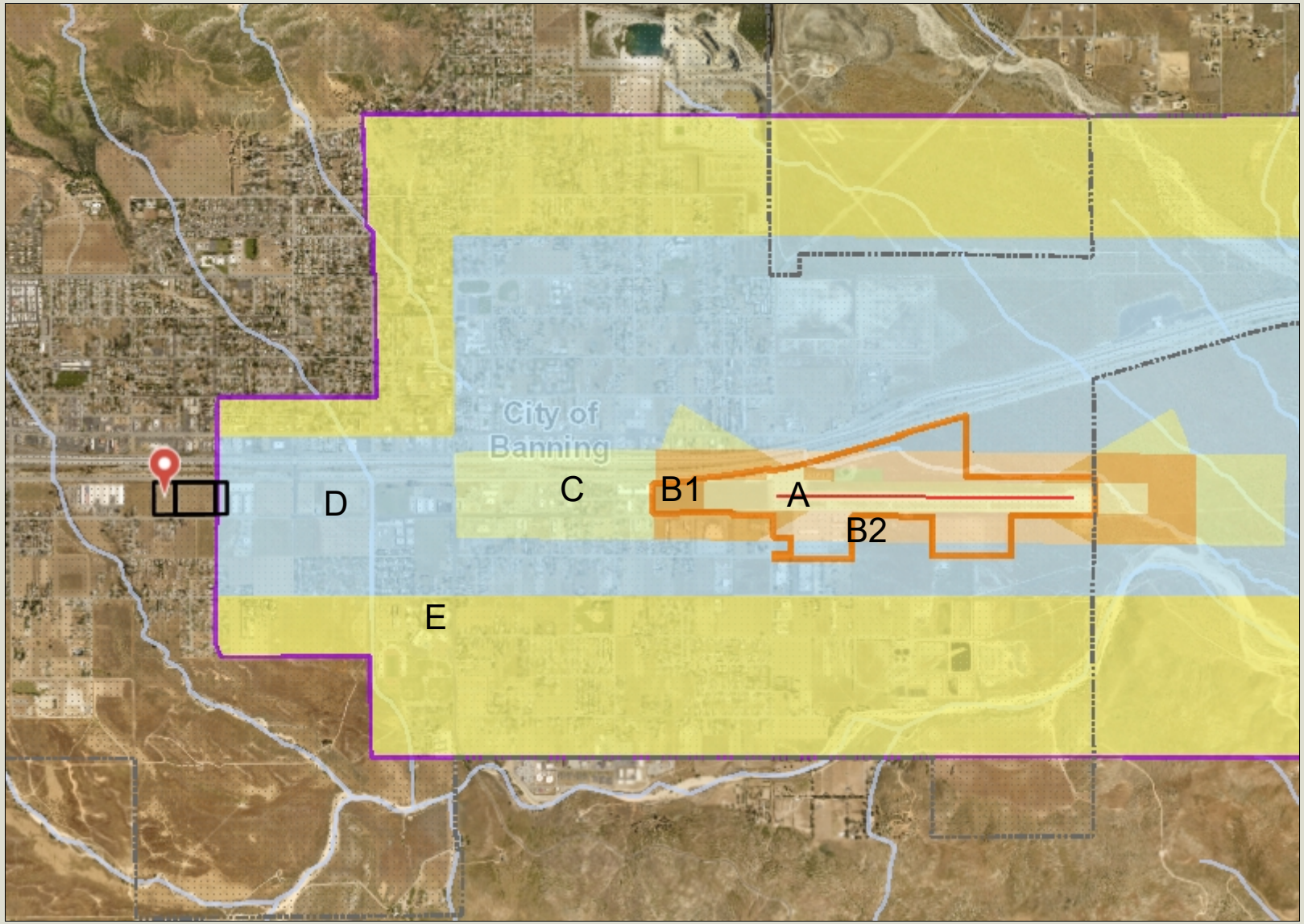
**Map BN-1**

## Compatibility Map

**Banning Municipal Airport**

BNG--compatibility

# Map My County Map







## Legend

- Runways
- Airports
- Airport Influence Areas
- Airport Compatibility Zones
  - OTHER COMPATIBILITY ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5
  - C2-EXC6

0 3,079 6,157 Feet

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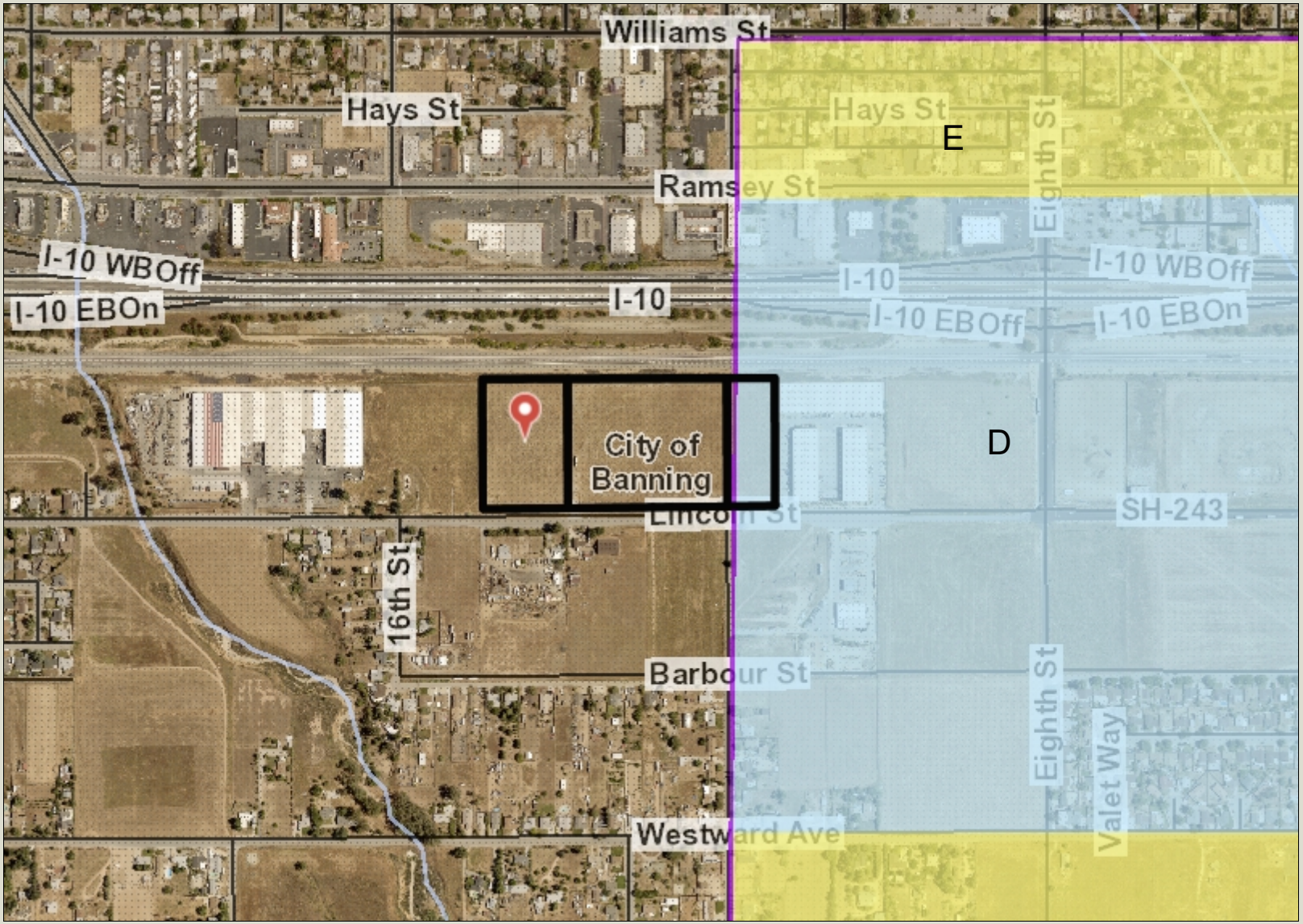
## Notes

# Map My County Map







## Legend

- Runways
- Airports
- Airport Influence Areas
- Airport Compatibility Zones
  - OTHER COMPATIBILITY ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5
  - C2-EXC6

0 770 1,539 Feet

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## Notes

# Map My County Map







## Legend

- County Centerline Names
- County Centerlines
- Blueline Streams
- City Areas
- World Street Map

0 770 1,539 Feet

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## Notes

# Map My County Map







## Legend

- Blueline Streams
- City Areas
- World Street Map

0 770 1,539 Feet

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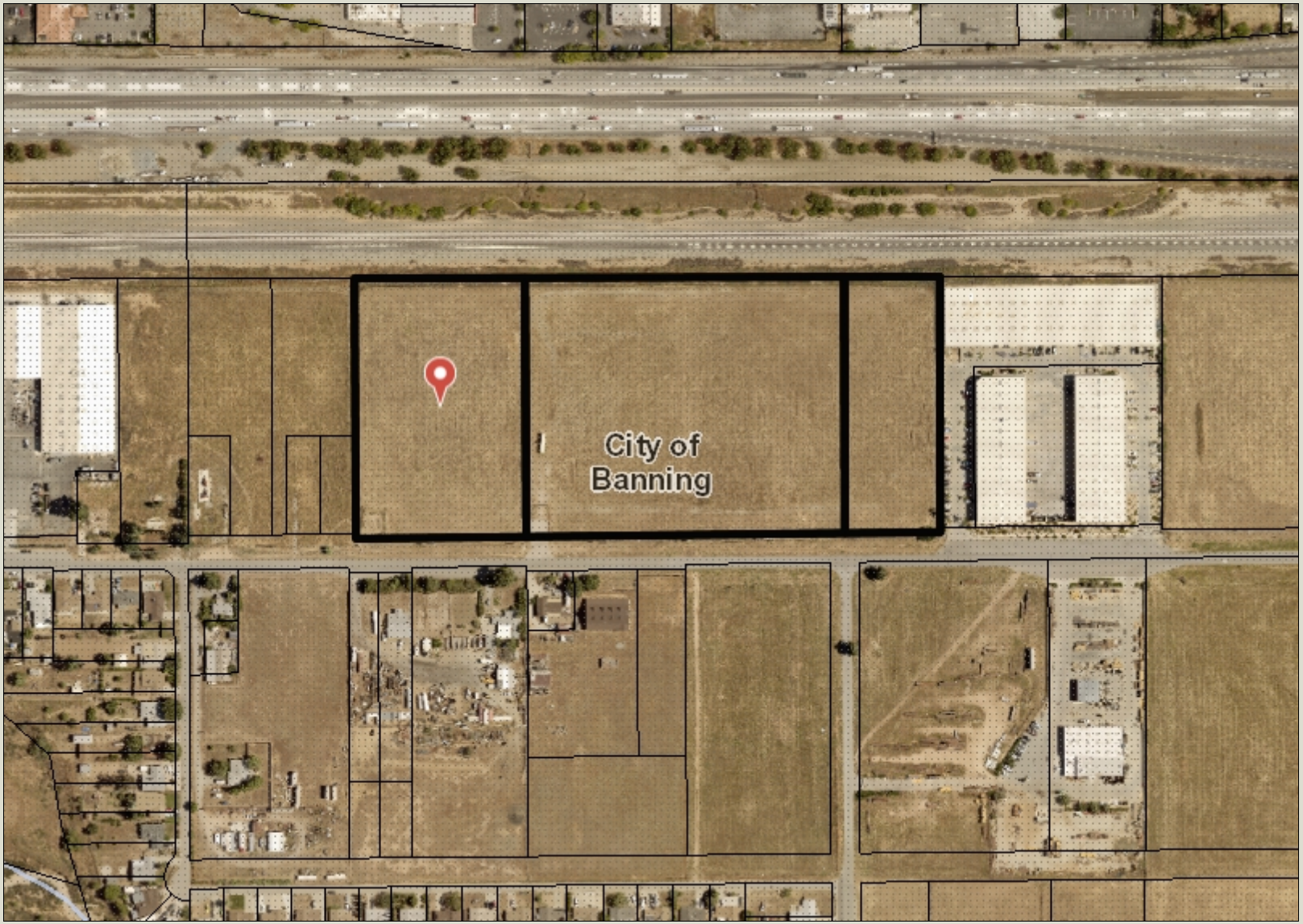
## Notes

# Map My County Map







## Legend

- Parcels
- Blueline Streams
- City Areas
- World Street Map

0 385 770 Feet

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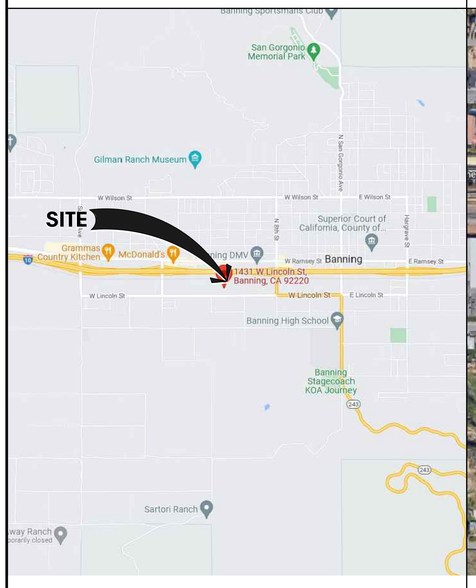
## Notes

# PROPOSED BROWN STRAUSS STEEL FACILITY




## 1431 WEST LINCOLN STREET, BANNING, CA 92220

## VICINITY MAP




N

## AERIAL VIEW




N

## PROJECT DATA

OWNER:
**BROWN STRAUSS, INC.**
2495 URAVAN STREET
AURORA, CO 80011
P (303) 576-6213
CONTACT: RYAN SECRIST

ARCHITECT & STRUCTURAL ENGINEER:
**VERTREES A&E**
532 EAST LAMBERT ROAD
BREA, CA 92821
P (714) 255-9645
CONTACT: JOE VERTREES, P.E., AIA

PLANNING & ENVIRONMENTAL
**SAGECREST**
27128 PASEO ESPADA
SAN JUAN CAPISTRANO, CA 92675
P (352) 262-6323
CONTACT: KELLY RIBUFFO

CIVIL:
**JOSEPH E. BONADIMAN & ASSOC. INC.**
234 N ARROWHEAD AVE.
SAN BERNARDINO, CA 92804-1721
P (909) 885-3806
CONTACT: J.T. STANTON, P.E.

LANDSPACE:
**ROYAL OAK DESIGN**
10252 GOLDEN YARROW LANE
ALTA LOMA, CA 91701
P (909) 244-9667
CONTACT: SYLVIA E. LYONS

CONTRACTOR:
**BREMCO CONSTRUCTION, INC.**
3470 E SPRING ST.
LONG BEACH, CA 90806
P (562) 595-4687
CONTACT: GREG DARLING

### CURRENT CODES IN EFFECT:

THE FOLLOWING CODES ARE IN EFFECT FOR THIS PROJECT:

2022 CALIFORNIA ADMINISTRATIVE CODE, (CAC) TITLE 24 - PART 1.
2022 CALIFORNIA BUILDING CODE, (CBC) TITLE 24 - PART 2. BASED ON 2021 INTERNATIONAL BUILDING CODE, (IBC).
2022 CALIFORNIA ELECTRICAL CODE, (CEC) TITLE 24 - PART 3. BASED ON 2020 NFPA 70, NATIONAL ELECTRICAL CODE, (NEC).
2022 CALIFORNIA MECHANICAL CODE, (CMC) TITLE 24 - PART 4. BASED ON 2021 UNIFORM MECHANICAL CODE, (UMC).
2022 CALIFORNIA PLUMBING CODE, (CPC) TITLE 24 - PART 5. BASED ON 2021 UNIFORM PLUMBING CODE, (UPC).
2022 CALIFORNIA ENERGY CODE, (CEC) TITLE 24 - PART 6. BASED 2021 INTERNATIONAL ENERGY CONSERVATION CODE, (IECC).
2022 CALIFORNIA HISTORICAL BUILDING CODE, (CHBC) TITLE 24 - PART 8. BASED ON 2021 INTERNATIONAL EXISTING BUILDING CODE, (IEBC).
2022 CALIFORNIA FIRE CODE, (CFC) TITLE 24 - PART 9. BASED ON 2021 INTERNATIONAL FIRE CODE, (IFC).
2022 CALIFORNIA EXISTING BUILDING CODE, (CEBC) TITLE 24 - PART 10. BASED ON 2021 INTERNATIONAL EXISTING BUILDING CODE, (IEBC).
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE, (CGBSC or CALGreen) TITLE 24 - PART 11.
2022 CALIFORNIA REFERENCED STANDARDS, (CRSC) TITLE 24 - PART 12.
NOTE: STATE OF CALIFORNIA CODES ARE BASED ON 2021 INTERNATIONAL BUILDING CODE (IBC) WITH CITY AMENDMENTS.

### PROJECT DESCRIPTION

NEW 1-STORY OFFICE , STEEL TUBE STORAGE WAREHOUSE SF, TWO STEEL CUTTING SHEDS. AND ASSOCIATED SITE IMPROVEMENTS

### CODE DATA

| | |
|---|---|
| OCCUPANCY: | S1, F1, B |
| CONSTRUCTION TYPE: | IIB |
| BUILDING HEIGHT: | 36'-6" MAX |
| SPRINKLERED: | FULLY SPRINKLERED |
| ALLOWABLE AREA: | UNLIMITED (60' SIDE YARDS) |

PROPOSED BLDG AREA:

| | |
|---|---|
| WAREHOUSE: | 42,510 SF |
| MANUFACTURING: | 1,000 SF |
| OFFICE: | 3,434 SF |
| TOTAL: | 46,944 SF |

| | |
|---|---|
| LOT AREA: | |
| GROSS AREA: | 687,683 SF / 15.79 ACRES |
| NET AREA: | 621,431 SF / 14.27 ACRES |
| DISTURBANCE AREA: | 687,683 SF / 15.79 ACRES |
| FLOOR AREA RATIO: | 0.0683 (6.83 %) |
| CONCRETE/ASPHALT | 417,491 SF / 9.59 ACRES |
| GRAVEL | 92,982 SF / 2.13 ACRES |
| LANDSCAPING | 64,504 SF / 1.48 ACRES |
| PARKING LOT | 13,562 SF / 0.31 ACRES |

### LEGAL DESCRIPTION

RIVERSIDE COUNTY, APN: 540-180-020, 540-180-026, AND 540-180-022

PARCEL 1:
THE WESTERLY 198.00 FEET OF BLOCK 273 OF LANDS OF THE BANNING LAND COMPANY, IN THE CITY OF BANNING, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA. AS PER MAP RECORDED IN BOOK 9, PAGE 44 OF MAPS, SAN BERNARDINO COUNTY RECORDS.
EXCEPT THAT PORTION IN THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD COMPANY, ACQUIRED BY UNITED STATES CONGRESSIONAL GRANT.
PARCEL 2:
BLOCK 274 OF LANDS OF THE BANNING LAND COMPANY, IN THE CITY OF BANNING, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9, PAGE 44 OF MAPS, SAN BERNARDINO COUNTY RECORDS.
EXCEPT THAT PORTION IN THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD COMPANY, ACQUIRED BY UNITED STATES CONGRESSIONAL GRANT.
PARCEL 3:
THE EAST ONE-HALF LOT 0F 285 IN BANNING, AS SHOWN BY A CERTAIN MAP ENTITLED "AMENDED MAP OF BANNING LAND CO., AS PER MAP RECORDED IN BOOK 9, PAGE 44 OF MAPS, RECORDS OF SAN BERNARDINO, CALIFORNIA.
EXCEPTING THEREFROM THAT PORTION IN THE RIGHT OF WAY ACQUIRED BY THE UNITED STATES CONGRESSIONAL GRANT.

GENERAL PLAN LAND USE & ZONING

| | |
|---|---|
| EXISTING : | I - INDUSTRIAL, & GC - GENERAL COMMERCIAL |
| PROPOSED: | I - INDUSTRIAL |
| BANNING AIRPORT COMPATIBILITY ZONE: | NOT IN AN AIRPORT COMPATIBILITY ZONE. |
| FIRE HAZARD ZONE: | NOT IN A FIRE HAZARD ZONE |
| FIRE RESPONSABILITY AREA: | NOT IN A FIRE RESPONSIBILITY AREA |

## SHEET INDEX


ARCHITECTURAL
A0.1 COVER SHEET
A1.1 ARCHITECTURAL SITE PLAN
A2.1 PARTIAL FLOOR PLAN - EAST
A2.2 PARTIAL FLOOR PLAN - WEST
A3.1 ENLARGED FLOOR PLAN - OFFICE
A5.1 ROOF PLAN
A6.1 BUILDING ELEVATIONS
A6.2 SITE WALL ELEVATIONS
A6.3 RENDERINGS

CIVIL PLANS
C0.01 PRELIM. SITE GRADING PLAN

LANDSCAPE
L-1 CONCEPTUAL LANDSCAPE PLAN



VERTREES A&E
Architectural & Engineering Services
532 East Lambert Road
Brea, CA 92821
tel. 714.255.9645
www.vertreesae.com


B 08-14-23 PLANNING RESUBMITTAL
A 04-19-23 PLANNING SUBMITTAL

Contractor:
**BREMCO CONSTRUCTION, INC.**
3470 E SPRING ST.
LONG BEACH, CA 90806

Proposed:
**BROWN STRAUSS BANNING FACILITY**

For:
BROWN STRAUSS STEEL
AN EMPLOYEE-OWNED COMPANY
2495 URAVAN STREET
AURORA, CO 80011

Project Address:
1431 W LINCOLN ST
BANNING, CA 92220
APN: 540-180-020, 540-180-026, 540-180-022
BANNING PAC22-14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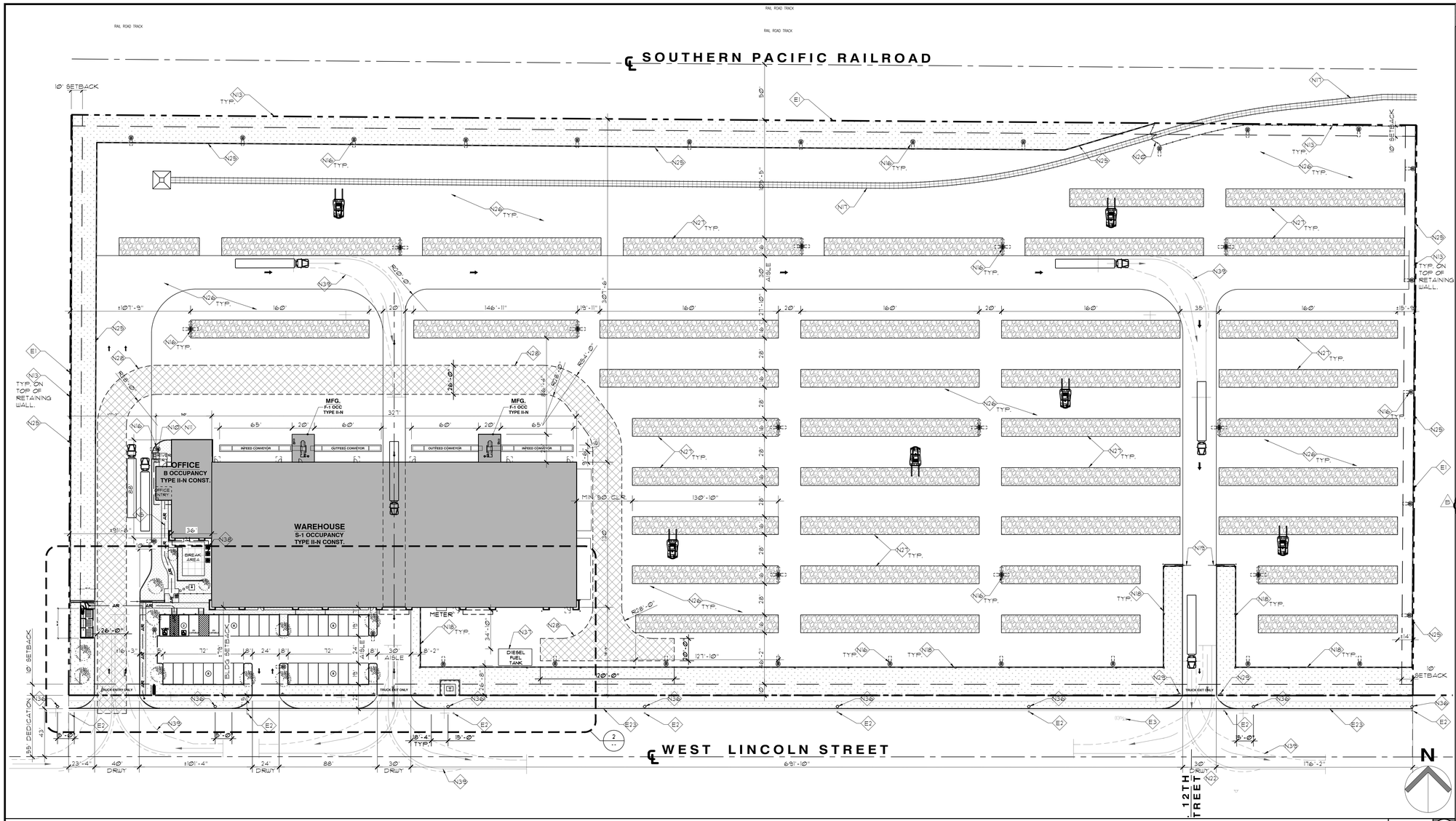
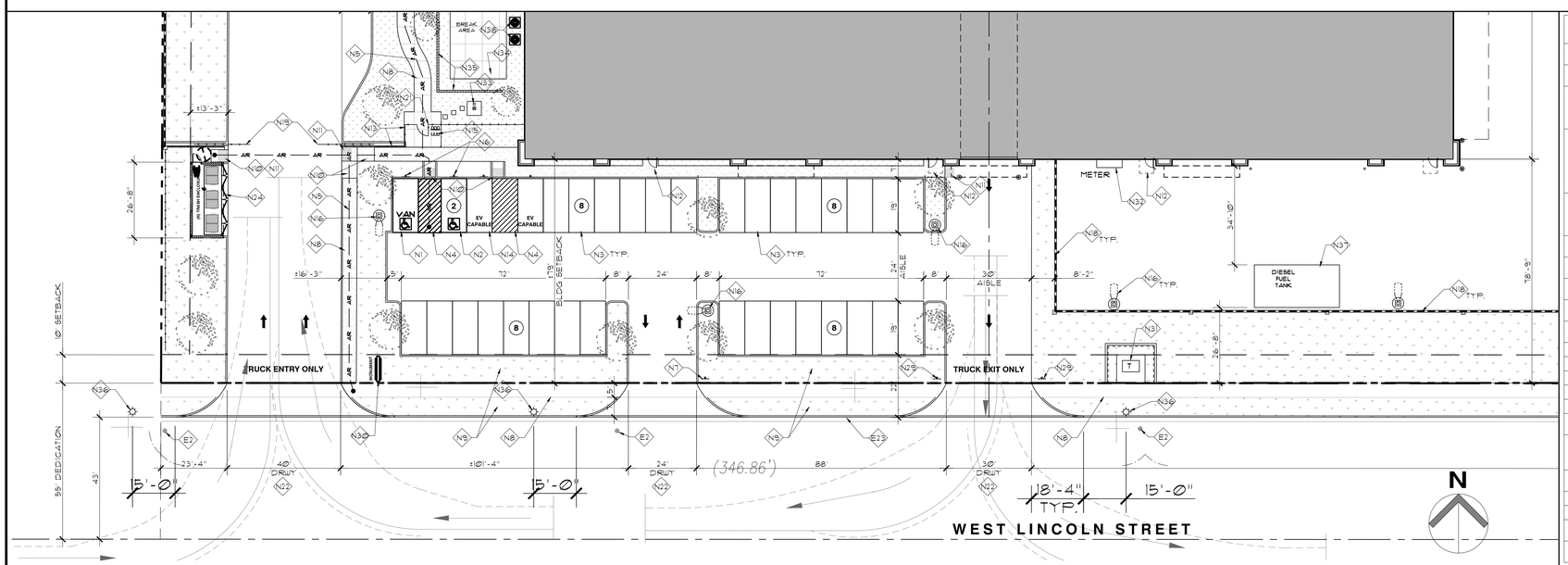
**COVER SHEET**

Plot Date
09/07/2023
VAE Project No.
1246

**A0.1**




SITE PLAN — SCALE: 1" = 40'-0" (1)




ENLARGED SITE PLAN - PARKING LOT — SCALE: 1" = 20'-0" (2)

## PARKING ANALYSIS

### REQUIRED PARKING SPACES

| USE TYPE | PARKING REQUIREMENTS [1] | SQUARE FOOTAGE | SPACES |
|---|---|---|---|
| GENERAL OFFICES | 1/200 SF (UP TO 12,000 SF) | 2,000 SF | 10 |
| | 1/250 SF (12,000-17,500 SF) | 1,434 SF | 6 |
| INDUSTRIAL WAREHOUSE | MINIMUM REQUIRED SPACES PLUS CALCULATION BELOW | | 2 |
| | 1/1,000 SF (UP TO 20,000 SF) | 20,000 SF | 20 |
| | 1/2,000 SF (OVER 20,000 SF) | 22,510 SF | 11 |
| MANUFACTURING | MINIMUM REQUIRED SPACES PLUS CALCULATION BELOW | | 2 |
| | 1/600 SF | 1,000 SF | 2 |
| **TOTAL REQUIRED VEHICLE PARKING SPACES** | | | 53 |

[1] PER CITY OF BANNING CHAPTER 17.28 PARKING AND LOADING STANDARDS

REQUIRED PARKING TO BE REDUCED TO A TOTAL OF 34 SPACES BASED ON OCCUPANTS EMPLOYEE COUNT.

### PROVIDED PARKING

| | |
|---|---|
| STANDARD PARKING (9'x19') | 30 |
| EV CAPABLE SPACES[2] | 2 |
| EV CAPABLE SPACES WITH EVSE[2] | 0 |
| STANDARD ACCESSIBLE PARKING (9'x18' MIN.) | 1 |
| VAN ACCESSIBLE PARKING (9'x18' MIN.) | 1 |
| **TOTAL PROVIDED PARKING SPACES** | 34 |

[2] PER 2022 CAL GREEN BUILDING CODE, TABLE 5.106.5.3.1

### LOADING SPACES

| | |
|---|---|
| FREIGHT LOADING SPACES[3] (15'x20' & MIN. 15' HT.) | 3 |
| PASSENGER LOADING SPACES[3] (11'x20') | 1 |
| **TOTAL PROVIDED LOADING SPACES** | 4 |

[3] PER CITY OF BANNING SEC 17.28.070 OFF STREET LOADING STANDARDS

## KEYNOTES

| | |
|---|---|
| E1. | EXISTING PROPERTY LINE |
| E2. | EXISTING POWER POLES - TO BE RELOCATED |
| E3. | EXISTING FIRE HYDRANT - TO BE RELOCATED |
| N1. | VAN ACCESSIBLE PARKING STALL (9'X18') STALL SHALL NOT BE STEEPER THAN 1:48 IN ANY DIRECTION (CA T24 11B-502) |
| N2. | STANDARD (9'X18') ACCESSIBLE PARKING STALL. STALL SHALL NOT BE STEEPER THAN 1:48 IN ANY DIRECTION (CA T24 11B-502 |
| N3. | STANDARD PARKING STALL, 9' WIDE X 19' DEEP. |
| N4. | ACCESSIBLE AISLE (8' WIDE) AISLE SHALL NOT BE STEEPER THAN 1:48 IN ANY DIRECTION. (CA T24 11B-502.3 & 502.4) |
| N5. | ACCESSIBLE PATH OF TRAVEL. RUNNING SLOPE OF WALKING SURFACE SHALL NOT BE STEEPER THAN 1:20. THE CROSS SLOPE OF WALKING SURFACE SHALL NOT BE STEEPER THAN 1:48. (CA T24 11B-403.3) |
| N6. | ACCESSIBLE PARKING SPACE IDENTIFICATION SIGN. (CA T24 11B-502.6) |
| N7. | 17" MINIMUM WIDE, 22" MINIMUM HIGH "UNAUTHORIZED PARKING SIGN" (CA T24 11B-502.8.3) |
| N8. | CONCRETE SIDEWALK. |
| N9. | LANDSCAPED AREA PER PRELIMINARY LANDSCAPE PLANS. |
| N10. | ACCESSIBLE CURB CUT RAMP, 4' WIDE X MAX 6' WITH MAX. 1:12 SLOPE. |
| N11. | DETECTABLE WARNING CONSISTING OF A SURFACE OF TRUNCATED DOMES. (CA T24 11B-705.1.1). DETECTABLE WARNING SHALL BE YELLOW CONFORMING TO FS 33538 OF FEDERAL STANDARDS 595C (CA T24 11B-705.1.1.5) |
| N12. | LEVEL LANDINGS (MAX. 2% SLOPE) SHALL BE PROVIDED ON EACH SIDE OF DOORS AND SUCH LANDING SHALL BE AT THE SAME ELEVATION ON EACH SIDE OF THE DOOR. LANDINGS SHALL HAVE A WIDTH NOT LESS THAN THE WIDTH OF THE DOOR (1008.1.5) AND A LENGTH MEASURED IN THE DIRECTION OF TRAVEL OF NOT LESS THAN 44". |
| N13. | 8' TALL TUBULAR STEEL FENCING. |
| N14. | ELECTRICAL VEHICLE CAPABLE SPACE - PAINT "EV/CLEAN AIR" WITH WHITE PAINT - 12" MIN. HT. TEXT, AND PER 2022 CGBC SECTION 5.106.5.3 (ADD) |
| N15. | SHORT TERM BICYCLE RACK PER CGBC SECTION 5.106.4.1.1. SITESCAPES, ECHO COLLECTION, 5X BIKE TUBULAR WAVE STYLE BIKE RACK (MODEL #SC2-05-EM, STAINLESS STEEL FINISH) |
| N16. | LIGHTPOLE PER ELECTRICAL PLANS AND CIVIL PLANS AND WITH CONCRETE BASE/FOUNDATION PER STRUCTURAL. |
| N17. | NEW RAILROAD SPUR. |
| N18. | 8' TALL SPLITFACE CMU SITE SCREEN WALL PER ELEVATION ON A6.2 WITH 16" SQUARE CMU PILASTERS AT 48'-0" OC. |
| N19. | 8' TALL, BI-PARTING SLIDING STEEL GATE WITH KNOX-BOX. |
| N20. | 8' TALL SWING GATES AT RAILROAD SPUR. |
| N21. | 3' WIDE PEDESTRIAN GATE WITH INTERCOM, KEYPAD, AND KNOX-KEY BOX. |
| N22. | NEW DRIVEWAY APPROACH PER CIVIL AND CITY STANDARDS. |
| N23. | NEW CONCRETE CURB AND GUTTER PER CIVIL STREET IMPROVEMENT PLANS |
| N24. | NEW 3-BIN TRASH ENCLOSURE PER CITY OF BANNING STANDARDS. CMU WALLS, STEEL SWING GATES AND SOLID ROOF. |
| N25. | NEW CMU OR CONCRETE RETAINING WALLS. HEIGHT VARIES PER CIVIL PLANS. |
| N26. | NEW PAVED YARD PER CIVIL PLANS. |
| N27. | NEW MATERIAL STACKING AREA WITH GRAVEL BASE PER CIVIL. |
| N28. | PAVED FIRE ACCESS, 26' WIDE WITH MIN. 28' TURNING RADIUS, AND 120' HAMMERHEAD TURNAROUND PER 2023 CFC APPENDIX D. |
| N29. | POLE MOUNTED "ONE-WAY, DO NOT ENTER" SIGN. |
| N30. | MONUMENT SIGN - UNDER SEPARATE PERMIT. |
| N31. | ELECTRICAL TRANSFORMER |
| N32. | ELECTRICAL METER AND MSB. |
| N33. | 30' TALL METAL FLAG POLE WITH UPLIGHT |
| N34. | PATIO CONCRETE PAVEMENT |
| N35. | 6' TALL CMU SCREEN WALL |
| N36. | NEW/RELOCATED METAL POWER POLES. |
| N37. | DIESEL FUEL STORAGE TANK AND FUEL DISPENSER. DOUBLE CONTAINED. |
| N38. | HVAC CONDENSERS AT GROUND LEVEL |
| N39. | STANDARD SEMI-TRUCK AND TRAILER 90 DEGREE TURNING TEMPLATE. |

## LEGEND

— AR — AR — ACCESSIBLE ROUTE - MAX. 5% SLOPE

## NOTES

A. CONSTRUCTION IN THE PUBLIC RIGHT OF WAY AND PROJECTION BEYOND THE PROPERTY LINES OR INTO THE ALLEYS SHALL COMPLY WITH COUNTY OF RIVERSIDE BUILDING CODE CHAPTER 32.

B. PEDESTRIANS SHALL BE PROTECTED DURING CONSTRUCTION, REMODELING AND DEMOLITION ACTIVITIES.

| | | |
|---|---|---|
| B | Ø9-14-23 | PLANNING RESUBMITTAL |
| A | Ø4-19-23 | PLANNING SUBMITTAL |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Contractor:

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Proposed:

**BROWN STRAUSS BANNING FACILITY**

For:

BROWN STRAUSS STEEL
AN EMPLOYEE-OWNED COMPANY
2495 URAVAN STREET
AURORA, CO 80011

Project Address:
1431 W LINCOLN ST
BANNING, CA 92220
APN: 540-180-020,
540-180-026, 540-180-022
BANNING PAC22-14


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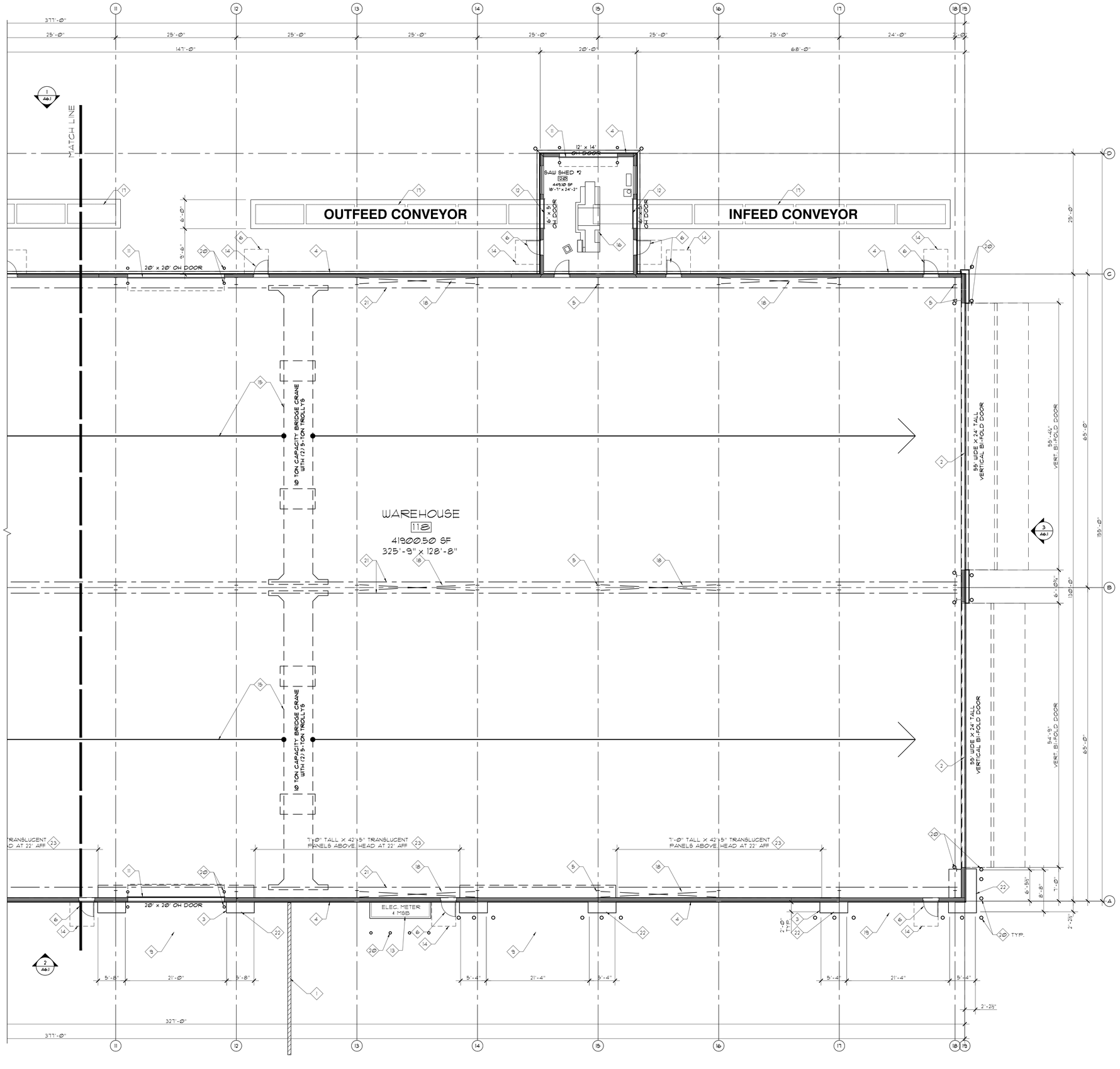
**SITE PLAN**

Plot Date
09/07/2023
VAE Project No.
1246

**A1.1**




## KEYNOTES

1. SITE SCREEN WALL PER SITE PLAN.
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4. EXTERIOR METAL BUILDING WALL WITH CLADDING PER ELEVATIONS.
5. PRE-ENGINEERED METAL BUILDING COLUMN.
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8. 3'X8' ALUM. NARROW STYLE GLASS DOOR
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12. COIL-UP DOOR
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17. CONVEYORS AT ±30" AFF
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21. BRIDGE CRANE RUNWAY BEAM, ABOVE
22. STEEL STUD FRAMED WALLS WITH HORIZONTAL IMP CLADDING PER ELEVATIONS.
23. EXTECH SERIES 5440 LIGHTWALL SYSTEM WITH CLEAR ALUMINUM FRAME AND 1" THK X 19" WIDE, TYPE 547 CLEAR TRANSLUCENT POLYCARBONATE LIGHT PANELS.
24. HVAC CONDENSERS AT GROUND LEVEL

## LEGEND

METAL STUD/WOOD WALL

MASONRY WALL

**PARTIAL FLOOR PLAN - EAST** SCALE: 1/8" = 1'-0" (1)


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| A | 04-19-23 | PLANNING SUBMITTAL |

Contractor:

**BREMCO CONSTRUCTION, INC.**
3470 E SPRING ST.
LONG BEACH, CA 90806

Proposed:

**BROWN STRAUSS BANNING FACILITY**

For:

BROWN STRAUSS STEEL
AN EMPLOYEE-OWNED COMPANY

2495 URAVAN STREET
AURORA, CO 80011

Project Address:

1431 W LINCOLN ST
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APN: 540-180-020,
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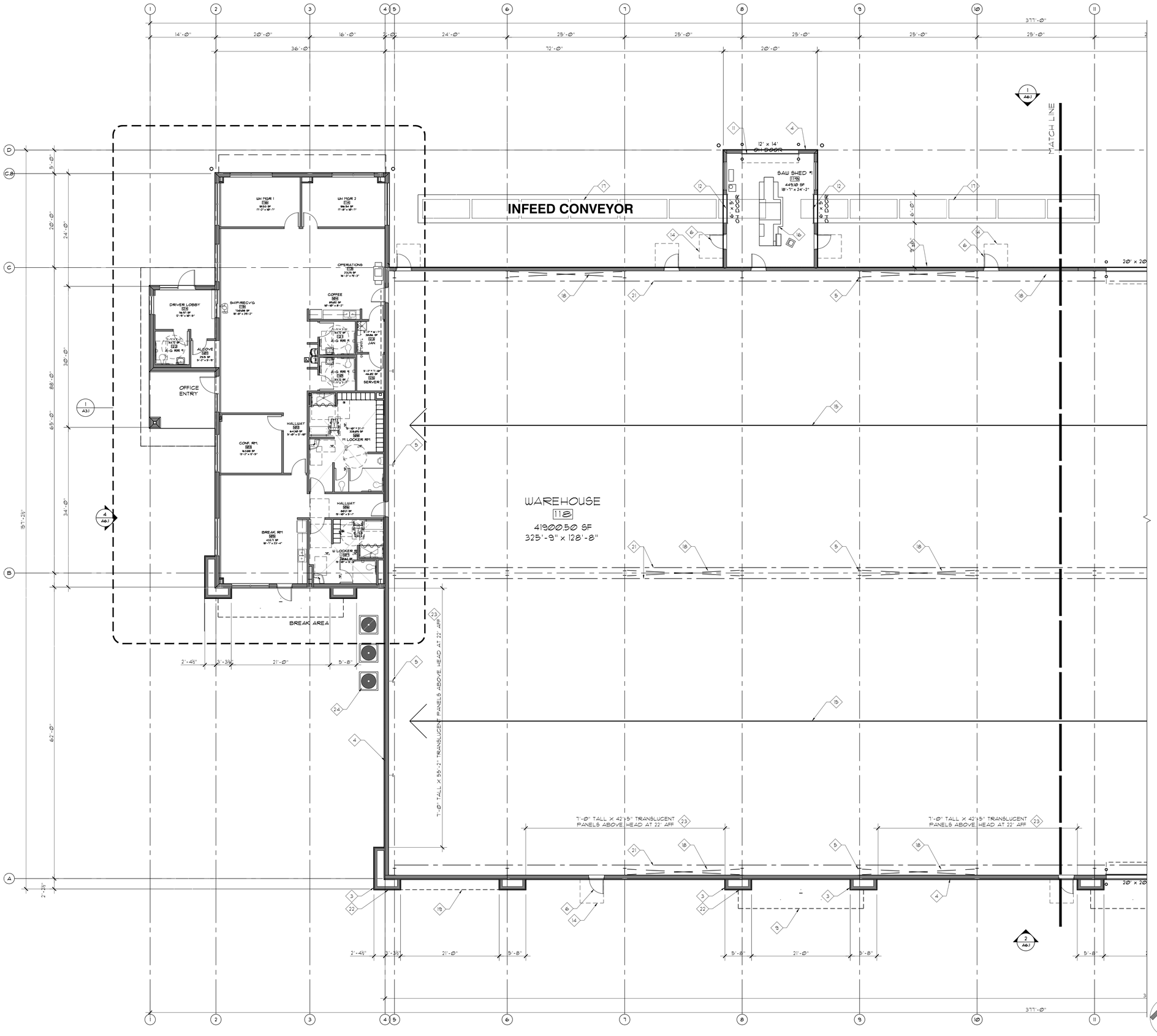


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24. HVAC CONDENSERS AT GROUND LEVEL

## LEGEND

METAL STUD/WOOD WALL

MASONRY WALL

PARTIAL FLOOR PLAN - WEST

SCALE: 1/8" = 1'-0"

1


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# PARTIAL FLOOR PLAN

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PLOT STATION: JOE VERTREES
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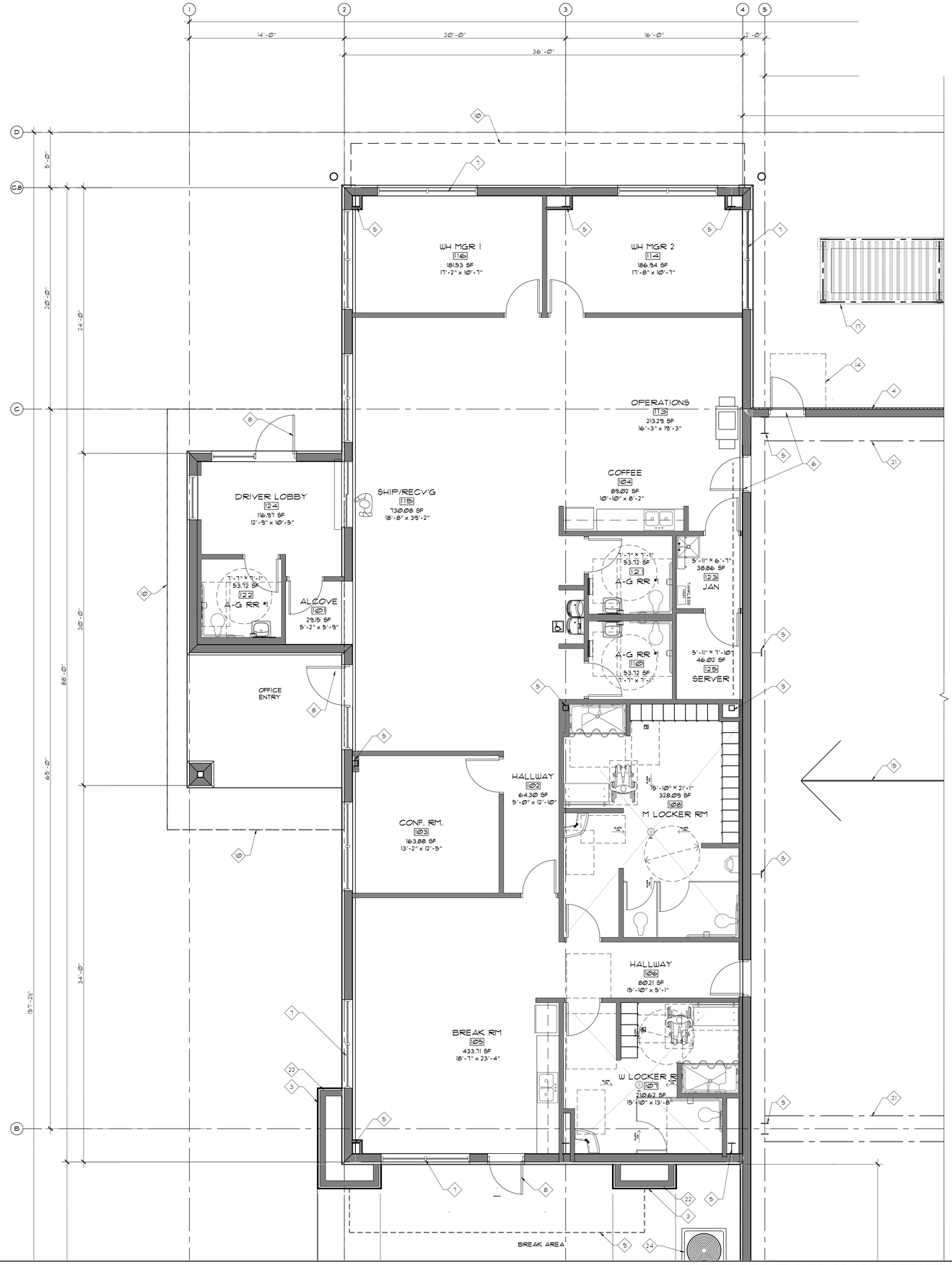


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24. HVAC CONDENSERS AT GROUND LEVEL

## LEGEND

METAL STUD/WOOD WALL

MASONRY WALL

**ENLARGED FLOOR PLAN - OFFICE** — SCALE: 1/4" = 1'-0" — 1


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LONG BEACH, CA 90806

Proposed:

**BROWN STRAUSS BANNING FACILITY**

For:

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2495 URAVAN STREET
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# ENLARGED FLOOR PLAN

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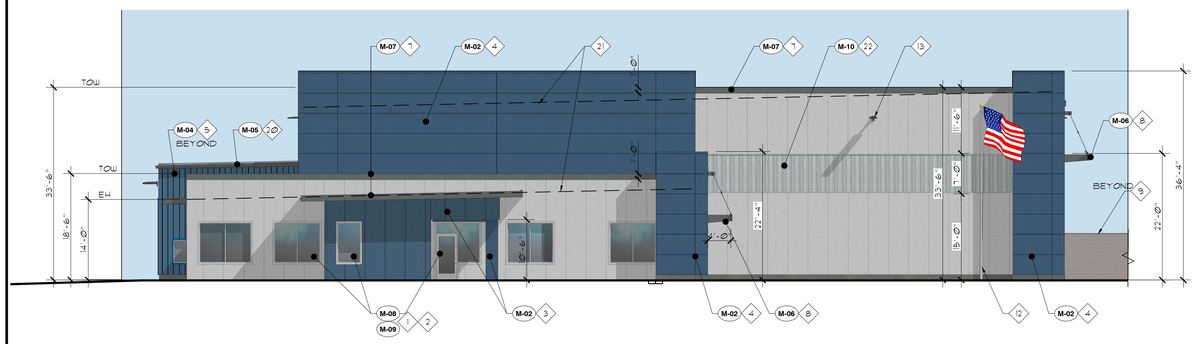
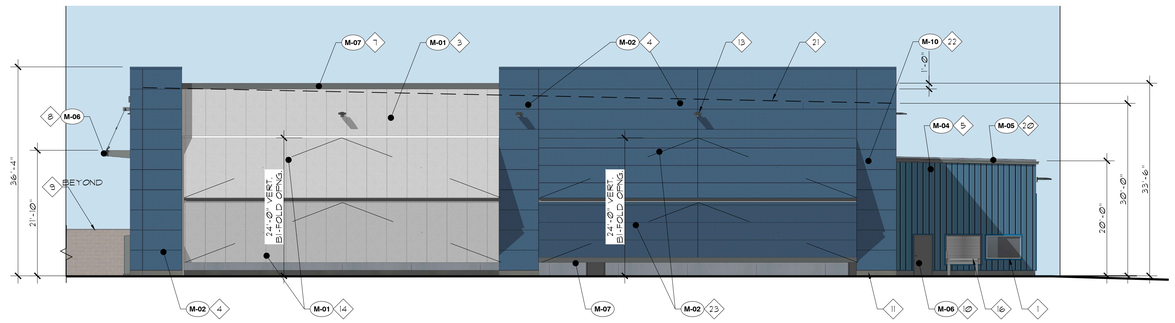


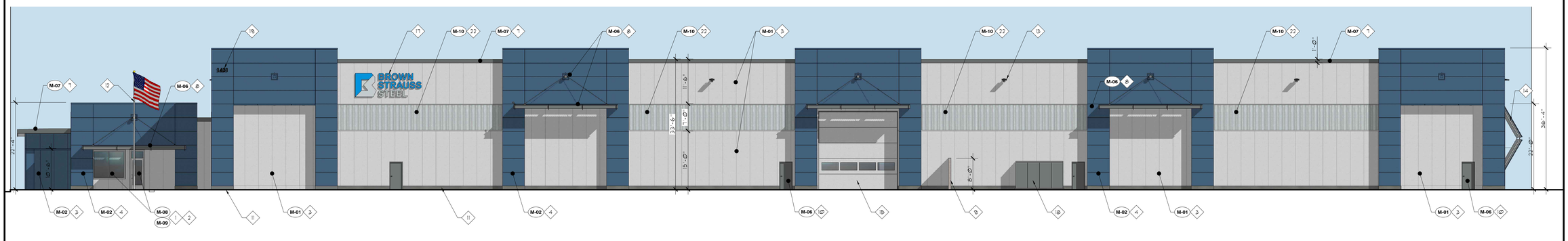

## WEST ELEVATION

SCALE: 1/8" = 1'-0" 4



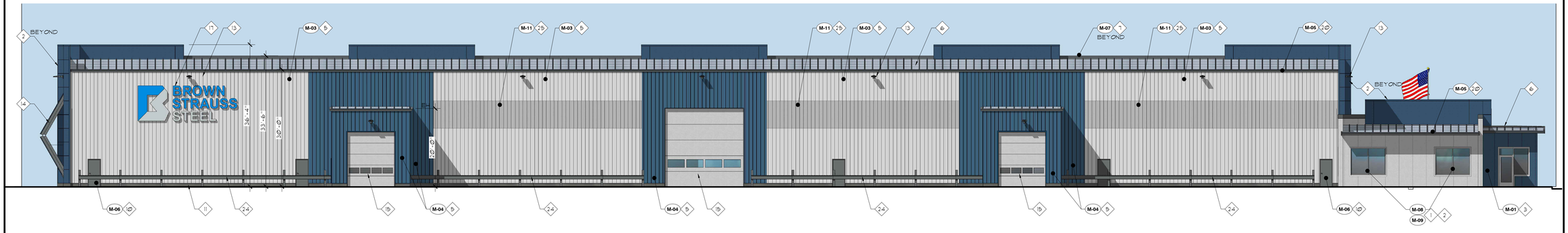

## EAST ELEVATION

SCALE: 3/32" = 1'-0" 3




## SOUTH ELEVATION

SCALE: 3/32" = 1'-0" 2




## NORTH ELEVATION

SCALE: 3/32" = 1'-0" 1

## MATERIAL LEGEND

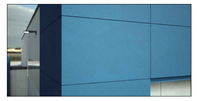
**M-01** KINGSPAN INSULATED METAL PANELS WITH GRANITSTONE COATING AT EXTERIOR FACE.

COLOR: IMPERIAL WHITE



**M-02** KINGSPAN INSULATED METAL PANELS WITH GRANITSTONE COATING AT EXTERIOR FACE.

COLOR: MEDIUM BLUE, CUSTOM COLOR.



**M-03** NUCOR BUILDING SYSTEMS, R-PANEL 26 GA METAL PANELS, WITH NUCOR PVDF COOL COATING.

COLOR: REGAL WHITE

**M-04** NUCOR BUILDING SYSTEMS, R-PANEL 26 GA METAL PANELS, WITH NUCOR PVDF COOL COATING.

COLOR: ROYAL BLUE

**M-05** NUCOR BUILDING SYSTEMS, 26 GA METAL TRIM, WITH NUCOR PVDF COOL COATING.

COLOR: CHARCOAL

**M-06** MEDIUM GRAY PAINT - METAL PAINT WITH SEMIGLOSS SHEEN OVER METAL PRIMER.

COLOR: DUNN EDWARDS PAINT, DE6363, "POINTED ROCK".

**M-07** MEDIUM GRAY METAL TRIM AND CAP FLASHING WITH GRANITSTONE TEXTURE COATING.

COLOR: CUSTOM COLOR TO MATCH DUNN EDWARDS PAINT, DE6363, "POINTED ROCK"



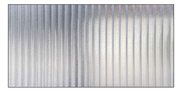
**M-08** CLEAR BRUSHED ALUMINUM FINISH.



**M-09** TINTED GRAY GLASS, VITRO ARCHITECTURAL GLASS, SOLARGRAY.



**M-10** EXTECH, TYPE 347 CLEAR POLYCARBONATE LIGHT PANELS



**M-11** TRANSLUCENT WALL PANELS WITH PROFILE TO MATCH NUCOR R-PANELS



## KEYNOTES

1. ALUMINUM STOREFRONT WINDOW SYSTEM WITH TINTED GLASS.
2. ALUMINUM STOREFRONT DOORS WITH TINTED GLASS.
3. INSULATED METAL PANELS WITH STUCCO COATING, 42" WIDE VERTICAL ORIENTATION.
4. INSULATED METAL PANELS (IMP) WITH STUCCO COATING, 42" WIDE WITH HORIZONTAL ORIENTATION AND 3/8" JOINT/REVEAL
5. BUTLER RIB II - 12" O.C. RIBBED METAL PANELS
6. STANDING SEAM ROOF, 24" O.C. SEAMS, BUTLER MR-24 SYSTEM.
7. WALL TOP CAP METAL TRIM WITH STUCCO TEXTURE COATING
8. STEEL CANOPY WITH ROD BRACES - PAINT PER: COLOR PER:
9. CMU SITE WALLPER A6.2
10. 3' X 7' EXTERIOR DOOR
11. CONCRETE CURB, SACK SMOOTH AND SEAL.
12. FLAG POLE PER PLAN.
13. LIGHT FIXTURES PER ELECTRICAL
14. VERTICAL BI-FOLD DOORS WITH INSULATED METAL PANEL CLADING, 42" WIDE WITH VERTICAL ORIENTATION. ALIGN PANEL JOINTS WITH WALL PANELS ABOVE.
15. SECTIONAL OVERHEAD DOOR WITH VISION PANELS.
16. COIL-UP DOOR.
17. BROWN STRAUSS STEEL BUILDING SIGN UNDER SEPARATE SIGN PERMIT.
18. ELECTRICAL METER AND MSB.
19. WALL MOUNTED BUILDING ADDRESS NUMBERS.
20. 24 GA. GI METAL CLAD FASCIA & GUTTER FLASHING PER DETAILS. COLOR/FINISH:
21. LINE OF ROOF BEYOND
22. EXTECH SERIES 3440 LIGHTWALL SYSTEM WITH CLEAR ALUMINUM FRAME AND 1" THK X 8'8" WIDE TYPE 347 CLEAR TRANSLUCENT POLYCARBONATE LIGHT PANELS.

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**BREMCO CONSTRUCTION, INC.**
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Proposed:

**BROWN STRAUSS BANNING FACILITY**

For:

BROWN STRAUSS STEEL
AN EMPLOYEE-OWNED COMPANY

2495 URAVAN STREET
AURORA, CO 80011

Project Address:

1431 W LINCOLN ST
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# ELEVATIONS

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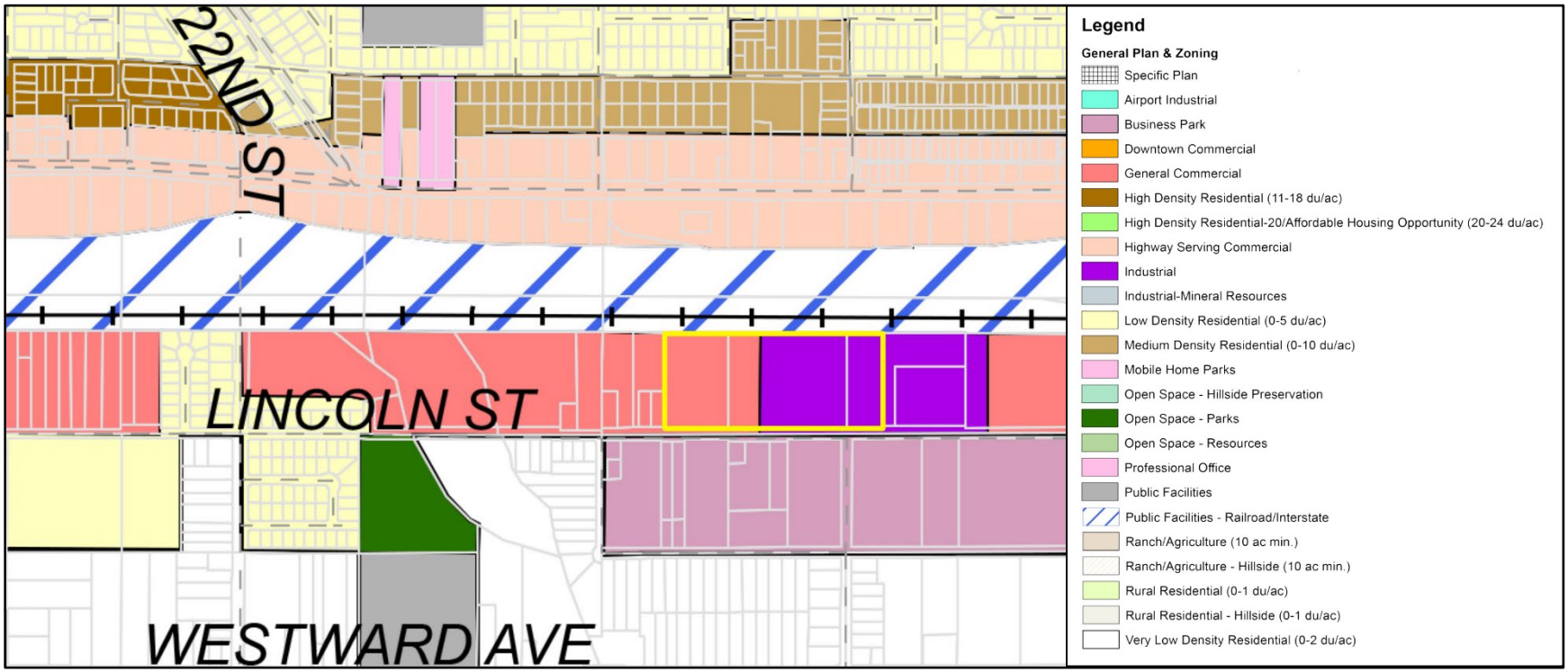
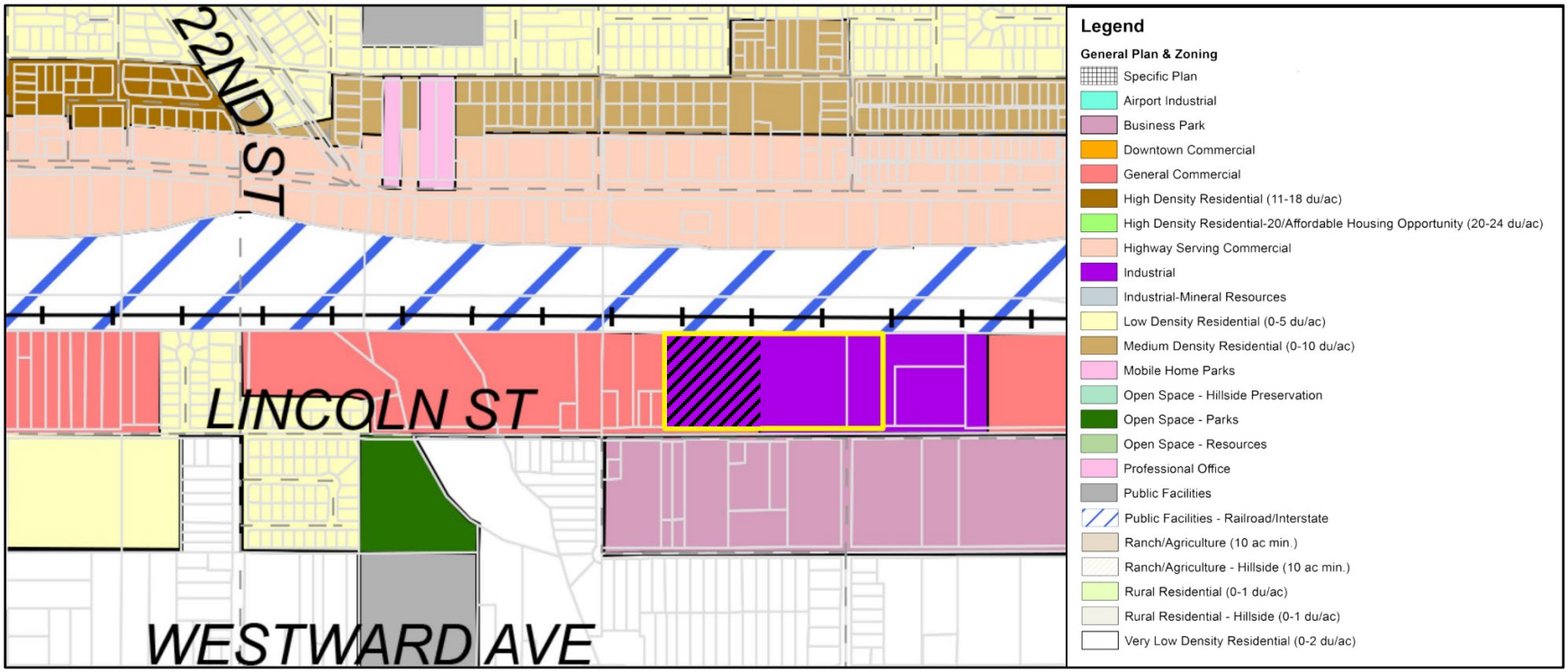



PROJECT SITE

Not to Scale

Figure 1: Existing General Plan and Zoning Map

Source: *City of Banning*




PROJECT SITE

Area of Proposed Zone Change to Industrial

Not to Scale

Figure 2: Proposed General Plan and Zoning Map

Source: *City of Banning/Sagecrest*

# Project Specific
# Water Quality Management Plan
## (Preliminary)

For: **Brown Strauss Steel--Banning**

**1431 and 1210 West Lincoln Street**
**Banning, CA 92220**
**APN 540-180-020, 022, & 026**

**DEVELOPMENT NO.** **DR 23-7008**
**DESIGN REVIEW NO.** **TBD**

**Prepared for:**

Brown Strauss, Inc.
2495 Uravan Street
Aurora, CO 80011
Telephone: (310) 694-1001

**Prepared by:**
J.T. Stanton P.E.
Joseph E. Bonadiman & Associates, Inc.
234 North Arrowhead Avenue
San Bernardino, CA 92408
Telephone: (909) 885-3806

Original Date Prepared: March 2023

Revision Date(s): October 2023

# OWNER'S CERTIFICATION

This project-specific Water Quality Management Plan (WQMP) has been prepared for:

Brown Strauss, Inc.
2495 Uravan Street
Aurora, CO 80011
Telephone: (310) 694-1001

This WQMP is intended to comply with the requirements of **The City of Banning** for **Brown Strauss Steel DR 23-7008**, which includes the requirement for the preparation and implementation of a project-specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity.

The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under **The City of Banning** Water Quality Ordinance (Municipal Code Section No. 1415 Sec.6).

If the undersigned transfers its interest in the subject property/project, the undersigned shall notify the successor in interest of its responsibility to implement this WQMP.

"I, the undersigned, certify under penalty of law that I am the owner of the property that is the subject of this WQMP, and that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature

Kris Farris
Owner's Printed Name

President & COO
Owner's Title/Position

11/9/2023
Date

**2495** Uravan Street
**Aurora**, CO 80011
**(**310) 694-1001

**ATTEST**

Notary Signature

Printed Name

Title/Position

Date

THIS FORM SHALL BE NOTARIZED BEFORE ACCEPTANCE OF THE FINAL PROJECT SPECIFIC WQMP

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**II. Site Characterization ..... 4**
**III. Pollutants of Concern ..... 6**
**IV. Hydrologic Conditions of Concern ..... 7**
**V. Best Management Practices ..... 8**
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V.1.C Measurable Goal Summary ..... 19
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## APPENDICES

A. Conditions of Approval
B. Vicinity Map, WQMP Site Plan, and Receiving Waters Map
C. Supporting Detail Related to Hydrologic Conditions of Concern (If Applicable)
D. Educational Materials
E. Soils Report (if applicable)
F. Structural BMP and/or Retention Facility Sizing Calculations and Design Details
G. Agreements – CC&Rs, Covenant and Agreements, BMP Maintenance Agreements and/or Other Mechanisms for ensuring ongoing Operation, Maintenance, Funding and Transfer of Requirements for this project-specific WQMP
H. Phase 1 Environmental Site Assessment – Summary of Site Remediation Conducted and Use Restrictions
I. Project-Specific WQMP Summary Data Form

# I. Project Description

**Project Owner**: Brown Strauss, Inc.
2495 Uravan Street
Aurora, CO 80011
(310) 694-1001

**WQMP Preparer**: J.T. Stanton P.E.
234 North Arrowhead Avenue
San Bernardino, CA 92408
(909) 885-3806

| | |
|---|---|
| Project Site Address: | **1431 and 1210 West Lincoln Street Banning, CA 92220** |
| Planning Area/ Community Name/ Development Name: | **Brown Strauss Steel--Banning** |
| APN Number(s): | **540-180-020, 022, & 026** |
| Latitude & Longitude: | **33.922445, -116.891147** |
| Receiving Water: | **Smith Creek** |
| Project Site Size: | **14.27 Acres** |

Standard Industrial Classification (SIC) Code: **5051**

Formation of Home Owners' Association (HOA) or Property Owners Association (POA): Y ☐ N ☒

Additional Permits/Approvals required for the Project:

| AGENCY | Permit required |
|---|---|
| State Department of Fish and Wildlife, Fish and Game Code §1602 Streambed Alteration Agreement | Y ☐ N ☒ |
| State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Certification | Y ☐ N ☒ |
| US Army Corps of Engineers, CWA Section 404 permit | Y ☐ N ☒ |
| US Fish and Wildlife, Endangered Species Act Section 7 biological opinion | Y ☐ N ☒ |
| Statewide Construction General Permit Coverage | Y ☒ N ☐ |
| Statewide Industrial General Permit Coverage | Y ☒ N ☐ |
| Other *(please list in the space below as required)*<br>City of Banning Grading, Construction, & Encroachment Permits. | |

**The existing project location is an empty vacant lot. The proposed project includes a new building, material storaage yard, parking lot and landscaping on a vacant lot. The storm water runoff will be treated via vortex sporators and an underground infiltration system. The total area of the site is 621,431 s.f. /14.27 acres.**

Appendix A of this project-specific WQMP includes a complete copy of the final Conditions of Approval. Appendix B of this project-specific WQMP includes:

a. A Vicinity Map identifying the project site and surrounding planning areas in sufficient detail; and

b. A Site Plan for the project. The Site Plan included as part of Appendix B depicts the following project features:

- Location and identification of all structural BMPs, including Source Control, LID/Site Design and Treatment Control BMPs.
- Landscaped areas.
- Paved areas and intended uses (i.e., parking, outdoor work area, outdoor material storage area, sidewalks, patios, tennis courts, etc.).
- Number and type of structures and intended uses (i.e., buildings, tenant spaces, dwelling units, community facilities such as pools, recreation facilities, tot lots, etc.).
- Infrastructure (i.e., streets, storm drains, etc.) that will revert to public agency ownership and operation.
- Location of existing and proposed public and private storm drainage facilities (i.e., storm drains, channels, basins, etc.), including catch basins and other inlets/outlet structures. Existing and proposed drainage facilities should be clearly differentiated.
- Location(s) of Receiving Waters to which the project directly or indirectly discharges.
- Location of points where onsite (or tributary offsite) flows exit the property/project site.
- Delineation of proposed drainage area boundaries, including tributary offsite areas, for each location where flows exit the project site and existing site (where existing site flows are required to be addressed). Each tributary area should be clearly denoted.
- Pre- and post-project topography.

Appendix I is a one page form that summarizes pertinent information relative to this project-specific WQMP.

# II. Site Characterization

Land Use Designation or Zoning: **Industrial**

Current Property Use: **Vacant**

Proposed Property Use: **Steel Material Storage Yard**

Availability of Soils Report: Y ☒ N ☐ *Note: A soils report is required if infiltration BMPs are utilized. Attach report in Appendix E.*

Phase 1 Site Assessment: Y ☒ N ☐ *Note: If prepared, attached remediation summary and use restrictions in Appendix H.*

**Receiving Waters for Urban Runoff from Site**

| Receiving Waters | EPA Approved 303(d) List Impairments | Designated Beneficial Uses | Proximity to RARE Beneficial Use Designated Receiving Waters |
|---|---|---|---|
| | | | |
| San Gorgonio River | N/A | MUN (Potential), AGR, GWR, REC I, REC II, COLD,WILD | N/A |
| Whitewater River | N/A | MUN, AGR, GWR, REC I, REC II, WARM (Intermittent), COLD, WILD, POW | N/A |
| Coachella Valley Storm Channel | DDT, Dieldrin, Indicator Bacteria, Nitrogen-ammonia, PCBs, Toxaphene, Toxicity (unknown) | FRSH, REC I, REC II, WARM, WILD, RARE | 49.00 Miles |
| Salton Sea | Arsenic, Chloride, Chlorpyrifos, DDT, Enterococcus, Low Dissolved Oxygen, Nitrogen-ammonia, Nutrients, Salinity, Toxicity | AQUA, IND (Potential), REC I, REC II, WARM, WILD, RARE | 68.94 Miles |

# III. Pollutants of Concern

**Table 1. Pollutant of Concern Summary**

| Pollutant Category | Potential for Project and/or Existing Site | Causing Receiving Water Impairment | Additional Information and Comments |
|---|---|---|---|
| Bacteria/Virus | Yes | Yes | Potential source includes animal waste. Bacteria is common in parking lot runoff. |
| Heavy Metals | Yes | No | Potential source include brake pad and tire wear associated with driving. |
| Nutrients | Yes | Yes | Potential source include fertilizers and eroded soils. |
| Toxic Organic Compounds | Yes | Yes | Potential source include solvents and cleaning compounds. |
| Sediment/Turbidity | Yes | No | Potential source include eroded soils. |
| Trash & Debris | Yes | No | Potential source include paper, plastic, and aluminum materials. |
| Oil & Grease | Yes | No | Potential source include petroleum hydrocarbon products and motor products. |
| Other (specify pollutant): | N/A | N/A | N/A |
| Other (specify pollutant): | N/A | N/A | N/A |

# IV. Hydrologic Conditions of Concern

**Local Jurisdiction Requires On-Site Retention of Urban Runoff:**

Yes ☒ The project will be required to retain urban runoff onsite in conformance with local ordinance (See Table 6 of the WQMP Guidance document, "Local Land use Authorities Requiring Onsite Retention of Stormwater"). This section does not need to be completed; however, retention facility design details and sizing calculations must be included in Appendix F.

No ☐ This section must be completed.

**This Project meets the following condition:**

☐ **Condition A**: 1) Runoff from the Project is discharged directly to a publicly-owned, operated and maintained MS4 or engineered and maintained channel, 2) the discharge is in full compliance with local land use authority requirements for connections and discharges to the MS4 (including both quality and quantity requirements), 3) the discharge would not significantly impact stream habitat in proximate Receiving Waters, **and** 4) the discharge is authorized by the local land use authority.

☐ **Condition B**: The project disturbs less than 1 acre and is not part of a larger common plan of development that exceeds 1 acre of disturbance. The disturbed area calculation must include all disturbances associated with larger plans of development.

☐ **Condition C**: The project's runoff flow rate, volume, velocity and duration for the post-development condition do not exceed the pre-development condition for the 2-year, 24-hour and 10-year 24-hour rainfall events. This condition can be achieved by, where applicable, complying with the local land use authority's on-site retention ordinance, or minimizing impervious area on a site and incorporating other Site-Design BMP concepts and LID/Site Design BMPs that assure non-exceedance of pre-development conditions. This condition must be substantiated by hydrologic modeling methods acceptable to the local land use authority.

☐ **None:** Refer to Section 3.4 of the Whitewater River Region WQMP Guidance document for additional requirements.

Supporting engineering studies, calculations, and reports are included in Appendix C.

| | 2 year – 24 hour | | 10 year – 24 hour | |
|---|---|---|---|---|
| | **Precondition** | **Post-condition** | **Precondition** | **Post-condition** |
| **Discharge (cfs)** | | | | |
| **Velocity (fps)** | | | | |
| **Volume (cubic feet)** | | | | |
| **Duration (minutes)** | | | | |

# V. Best Management Practices

This project implements Best Management Practices (BMPs) to address the Pollutants of Concern that may potentially be generated from the use of the Project Site. These BMPs have been selected and implemented to comply with Section 3.5 of the WQMP Guidance document, and consist of Site Design BMP concepts, Source Control, LID/Site Design and, if/where necessary, Treatment Control BMPs as described herein.

## V.1 Site Design BMP Concepts, LID/Site Design and Treatment Control BMPs

Local Jurisdiction Requires On-Site Retention of Urban Runoff:

Yes ☒ The project will be required to retain Urban Runoff onsite in conformance with local ordinance (See Table 6 of the WQMP Guidance document, "Local Land use Authorities Requiring Onsite Retention of Stormwater). **The LID/Site Design measurable goal has thus been met (100%), and Sections V.1.A and V.1.B do not need to be completed**; however, retention facility design details and sizing calculations must be included in Appendix F, and '100%' should be entered into Column 3 of Table 6 below.

No ☐ Section V.1 must be completed.

This section of the Project-Specific WQMP documents the LID/Site Design BMPs and, if/where necessary, the Treatment Control BMPs that will be implemented on the project to meet the requirements detailed within Section 3.5.1 of the WQMP Guidance document. Section 3.5.1 includes requirements to implement Site Design Concepts and BMPs, and includes requirements to address Pollutants of Concern with BMPs. Further, sub-section 3.5.1.1 specifically requires that Pollutants of Concern be addressed with LID/Site Design BMPs to the extent feasible.

LID/Site Design BMPs are those BMPs listed within Table 2 below which promote retention and/or feature a natural treatment mechanism; off-site and regionally-based BMPs are also LID/Site Design BMPs, and therefore count towards the measurable goal, if they fit these criteria. This project incorporates LID/Site Design BMPs to fully address the Treatment Control BMP requirement where and to the extent feasible. If and where it has been acceptably demonstrated to the local land use authority that it is infeasible to fully meet this requirement with LID/Site Design BMPs, Section V.1.B (below) includes a description of the conventional Treatment Control BMPs that will be substituted to meet the same requirements.

In addressing Pollutants of Concern, BMPs are selected using Table 2 below.

## Table 2. BMP Selection Matrix Based Upon Pollutant of Concern Removal Efficiency (1)

(Sources: Riverside County Flood Control & Water Conservation District Design Handbook for Low Impact Development Best Management Practices, dated September 2011, the Orange County Technical Guidance Document for Water Quality Management Plans, dated May 19, 2011, and the Caltrans Treatment BMP Technology Report, dated April 2010 and April 2008)

| Pollutant of Concern | Landscape Swale[2, 3] | Landscape Strip[2, 3] | Biofiltration (with underdrain)[2, 3] | Extended Detention Basin[2] | Sand Filter Basin[2] | Infiltration Basin[2] | Infiltration Trench[2] | Permeable Pavement[2] | Bioretention (w/o underdrain)[2, 3] | Other BMPs Including Proprietary BMPs[4, 6] |
|---|---|---|---|---|---|---|---|---|---|---|
| Sediment & Turbidity | M | M | H | M | H | H | H | H | H | Varies by Product[5] |
| Nutrients | L/M | L/M | M | L/M | L/M | H | H | H | H | |
| Toxic Organic Compounds | M/H | M/H | M/H | L | L/M | H | H | H | H | |
| Trash & Debris | L | L | H | H | H | H | H | L | H | |
| Bacteria & Viruses (also: Pathogens) | L | M | H | L | M | H | H | H | H | |
| Oil & Grease | M | M | H | M | H | H | H | H | H | |
| Heavy Metals | M | M/H | M/H | L/M | M | H | H | H | H | |

Abbreviations:

L: Low removal efficiency M: Medium removal efficiency H: High removal efficiency

Notes:

(1) Periodic performance assessment and updating of the guidance provided by this table may be necessary.

(2) Expected performance when designed in accordance with the most current edition of the document, "Riverside County, Whitewater River Region Stormwater Quality Best Management Practice Design Handbook".

(3) Performance dependent upon design which includes implementation of thick vegetative cover. Local water conservation and/or landscaping requirements should be considered; approval is based on the discretion of the local land use authority.

(4) Includes proprietary stormwater treatment devices as listed in the CASQA Stormwater Best Management Practices Handbooks, other stormwater treatment BMPs not specifically listed in this WQMP (including proprietary filters, hydrodynamic separators, inserts, etc.), or newly developed/emerging stormwater treatment technologies.

(5) Expected performance should be based on evaluation of unit processes provided by BMP and available testing data. Approval is based on the discretion of the local land use authority.

(6) When used for primary treatment as opposed to pre-treatment, requires site-specific approval by the local land use authority.

## V.1.A SITE DESIGN BMP CONCEPTS AND LID/SITE DESIGN BMPS

This section documents the Site Design BMP concepts and LID/Site Design BMPs that will be implemented on this project to comply with the requirements detailed in Section 3.5.1 of the WQMP Guidance document.

- Table 3 herein documents the implementation of the Site Design BMP Concepts described in sub-sections 3.5.1.3 and 3.5.1.4.
- Table 4 herein documents the extent to which this project has implemented the LID/Site Design goals described in sub-section 3.5.1.1.

## Table 3. Implementation of Site Design BMP Concepts

| Design Concept | Technique | Specific BMP | Included | | | Brief Reason for BMPs Indicated as No or N/A |
|---|---|---|---|---|---|---|
| | | | Yes | No | N/A | |
| *Site Design BMP Concept 1* | **Minimize Urban Runoff, Minimize Impervious Footprint, and Conserve Natural Areas (See WQMP Section 3.5.1.3)** | Conserve natural areas by concentrating or clustering development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition. | ☐ | ☐ | ☒ | |
| | | Conserve natural areas by incorporating the goals of the Multi-Species Habitat Conservation Plan or other natural resource plans. | ☐ | ☐ | ☒ | |
| | | Preserve natural drainage features and natural depressional storage areas on the site. | ☐ | ☐ | ☒ | |
| | | Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs. | ☐ | ☐ | ☒ | |
| | | Use natural drainage systems. | ☐ | ☐ | ☒ | |
| | | Where applicable, incorporate Self-Treating Areas | ☒ | ☐ | ☐ | Landscape area will be self treating. |
| | | Where applicable, incorporate Self-Retaining Areas | ☐ | ☐ | ☒ | |
| | | Increase the building floor to area ratio (i.e., number of stories above or below ground). | ☐ | ☐ | ☒ | |
| | | Construct streets, sidewalks and parking lot aisles to minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised. | ☒ | ☐ | ☐ | Parking areas and side walk have been minimized to the extent possible. |
| | | Reduce widths of streets where off-street parking is available. | ☐ | ☐ | ☒ | |
| | | Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design. | ☒ | ☐ | ☐ | Garvel used in material storage areas. |
| | | Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept). | ☐ | ☐ | ☒ | |

**Table 3. Site Design BMP Concepts (continued)**

| Design Concept | Technique | Specific BMP | Included: Yes | Included: No | Included: N/A | Brief Reason for Each BMP Indicated as No or N/A |
|---|---|---|---|---|---|---|
| *Site Design BMP Concept 2* | **Minimize Directly Connected Impervious Area**<br><br>**(See WQMP Section 3.5.1.4)** | Design residential and commercial sites to contain and infiltrate roof runoff, or direct roof runoff to landscaped swales or buffer areas. | ☐ | ☐ | ☒ | |
| | | Drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping. | ☐ | ☐ | ☒ | |
| | | Incorporate landscaped buffer areas between sidewalks and streets. | ☐ | ☐ | ☒ | |
| | | Use natural or landscaped drainage swales in lieu of underground piping or imperviously lined swales. | ☐ | ☐ | ☒ | |
| | | Where soil conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration. | ☒ | ☐ | ☐ | An underground infiltration system consisting of perforated pipe will be used. |
| | | Maximize the permeable area by constructing walkways, trails, patios, overflow parking, alleys, driveways, low-traffic streets, and other low-traffic areas with open-jointed paving materials or permeable surfaces such as pervious concrete, porous asphalt, unit pavers, and granular materials. | ☐ | ☐ | ☒ | |
| | | **Use one or more of the following:** | | | | |
| | | Rural swale system: street sheet flows to landscaped swale or gravel shoulder, curbs used at street corners, and culverts used under driveways and street crossings. | ☐ | ☐ | ☒ | |
| | | Urban curb/swale system: street slopes to curb; periodic swale inlets drain to landscaped swale or biofilter. | ☐ | ☐ | ☒ | |
| | | Dual drainage system: first flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder; high flows connect directly to MS4s. | ☐ | ☐ | ☒ | |
| | | Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept). | ☐ | ☐ | ☒ | |
| | | **Use one or more of the following for design of driveways and private residential parking areas:** | | | | |
| | | Design driveways with shared access, flared (single lane at street), or wheel strips (paving only under the tires). | ☐ | ☐ | ☒ | |

| Design Concept | Technique | Specific BMP | Included | | | Brief Reason for Each BMP Indicated as No or N/A |
|---|---|---|---|---|---|---|
| | | | Yes | No | N/A | |
| | | Uncovered temporary or guest parking on residential lots paved with a permeable surface, or designed to drain into landscaping. | ☐ | ☐ | ☒ | |

**Table 3. Site Design BMP Concepts (continued)**

| Design Concept | Technique | Specific BMP | Included | | | Brief Reason for Each BMP Indicated as No or N/A |
|---|---|---|---|---|---|---|
| | | | Yes | No | N/A | |
| *Site Design BMP Concept 2 (cont'd)* | **Minimize Directly Connected Impervious Area (See WQMP Section 3.5.1.4)** | Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept). | ☐ | ☐ | ☒ | |
| | | **Use one or more of the following for design of parking areas:** | | | | |
| | | Where landscaping is proposed in parking areas, incorporate parking area landscaping into the drainage design. | ☒ | ☐ | ☐ | |
| | | Overflow parking (parking stalls provided in excess of the Permittee's minimum parking requirements) may be constructed with permeable pavement. | ☐ | ☐ | ☒ | |
| | | Other comparable and equally effective Site Design BMP (or BMPs) as approved by the local land use authority (Note: Additional narrative required describing BMP and how it addresses site design concept). | ☐ | ☐ | ☒ | |

**Project Site Design BMP Concepts:**

DA-1, 2 & 3 area runoff will be routed via vortex seporators to an underground stormwater retention basin sized to contain the WQMP volume and the developed condition hydrograph volumes for a 100-yr, 3-hr storm, 1.9698 ac ft (85,804 cu ft). Additional volume to buffer the difference between the existing condition and the developed condition hydrograph is also provide resulting in a total basin capacity of 2.9640 ac ft (129,110 cu ft). See project specific hydrology report for additional information.

**Alternative Project Site Design BMP Concepts:**

N/A

## Table 4. LID/Site Design BMPs Meeting the LID/Site Design Measurable Goal

| (1) DRAINAGE SUB-AREA ID OR NO. | (2) LID/SITE DESIGN BMP TYPE* (See Table 2) | (3) POTENTIAL POLLUTANTS OF CONCERN WITHIN DRAINAGE SUB-AREA (Refer to Table 1) | (4) POTENTIAL POLLUTANTS WITHIN SUB-AREA CAUSING RECEIVING WATER IMPAIRMENTS (Refer to Table 1) | (5) EFFECTIVENESS OF LID/SITE DESIGN BMP AT ADDRESSING IDENTIFIED POTENTIAL POLLUTANTS (U, L, M, H/M, H; see Table 2) | (6) BMP MEETS WHICH DESIGN CRITERIA? (Identify as $V_{BMP}$ OR $Q_{BMP}$) | (7) TOTAL AREA WITHIN DRAINAGE SUB-AREA (Nearest 0.1 acre) |
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| TOTAL PROJECT AREA TREATED WITH LID/SITE DESIGN BMPs (NEAREST 0.1 ACRE) | | | | | | |

*** LID/Site Design BMPs listed in this table are those that <u>completely</u> address the 'Treatment Control BMP requirement' for their drainage sub-area.**

**Justification of infeasibility for sub-areas not addressed with LID/Site Design BMPs**

## V.1.B TREATMENT CONTROL BMPS

Conventional Treatment Control BMPs shall be implemented to address the project's Pollutants of Concern as required in WQMP Section 3.5.1 where, and to the extent that, Section V.1.A has demonstrated that it is infeasible to meet these requirements through implementation of LID/Site Design BMPs.

☒ The LID/Site Design BMPs described in Section V.1.A of this project-specific WQMP completely address the 'Treatment Control BMP requirement' for the entire project site (and where applicable, entire existing site) as required in Section 3.5.1.1 of the WQMP Guidance document. Supporting documentation for the sizing of these LID/Site Design BMPs is included in Appendix F. ***Section V.1.B does not need to be completed**.

☐ The LID/Site Design BMPs described in Section V.1.A of this project-specific WQMP do **NOT** completely address the 'Treatment Control BMP requirement' for the entire project site (or where applicable, entire existing site) as required in Section 3.5.1.1 of the WQMP. ***Section V.1.B must be completed.**

The Treatment Control BMPs identified in this section are selected, sized and implemented to treat the design criteria of $V_{BMP}$ and/or $Q_{BMP}$ for all project (and if required, existing site) drainage sub-areas which were not fully addressed using LID/Site Design BMPs. Supporting documentation for the sizing of these Treatment Control BMPs is included in Appendix F.

## Table 5: Treatment Control BMP Summary

| (1) DRAINAGE SUB-AREA ID OR NO. | (2) TREATMENT CONTROL BMP TYPE* (See Table 2) | (3) POTENTIAL POLLUTANTS OF CONCERN WITHIN DRAINAGE SUB-AREA (Refer to Table 1) | (4) POTENTIAL POLLUTANTS WITHIN SUB-AREA CAUSING RECEIVING WATER IMPAIRMENTS (Refer to Table 1) | (5) EFFECTIVENESS OF TREATMENT CONTROL BMP AT ADDRESSING IDENTIFIED POTENTIAL POLLUTANTS (U, L, M, H/M, H; see Table 2) | (6) BMP MEETS WHICH DESIGN CRITERIA? (Identify as $V_{BMP}$ OR $Q_{BMP}$) | (7) TOTAL AREA WITHIN DRAINAGE SUB-AREA (Nearest 0.1 acre) |
|---|---|---|---|---|---|---|
| | | | | | | |
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| | **TOTAL PROJECT AREA TREATED WITH TREATMENT CONTROL BMPs (NEAREST 0.1 ACRE)** | | | | | |

## V.1.C MEASURABLE GOAL SUMMARY

This section documents the extent to which this project has met the measurable goal described in WQMP Section 3.5.1.1 of addressing 100% of the project's 'Treatment Control BMP requirement' with LID/Site Design BMPs. Projects required to retain Urban Runoff onsite in conformance with local ordinance are considered to have met the measurable goal; for these instances, '100%' is entered into Column 3 of the Table.

### Table 6: Measurable Goal Summary

| (1) Total Area Treated with LID/Site Design BMPs (Last row of Table 4) | (2) Total Area Treated with Treatment Control BMPs (Last row of Table 5) | (3) % of Treatment Control BMP Requirement addressed with LID/Site Design BMPs |
|---|---|---|
| 100% | N/A | 100% |

## V.2 SOURCE CONTROL BMPS

This section identifies and describes the Source Control BMPs applicable and implemented on this project.

### Table 7. Source Control BMPs

| BMP Name | Check One | | If not applicable, state brief reason |
|---|---|---|---|
| | Included | Not Applicable | |
| **Non-Structural Source Control BMPs** | | | |
| Education for Property Owners, Operators, Tenants, Occupants, or Employees | ☒ | ☐ | |
| Activity Restrictions | ☒ | ☐ | |
| Irrigation System and Landscape Maintenance | ☒ | ☐ | |
| Common Area Litter Control | ☒ | ☐ | |
| Street Sweeping Private Streets and Parking Lots | ☒ | ☐ | |
| Drainage Facility Inspection and Maintenance | ☒ | ☐ | |
| **Structural Source Control BMPs** | | | |
| Storm Drain Inlet Stenciling and Signage | ☒ | ☐ | |
| Landscape and Irrigation System Design | ☒ | ☐ | |
| Protect Slopes and Channels | ☒ | ☐ | |
| Provide Community Car Wash Racks | ☐ | ☒ | Project is a material yard. |
| **Properly Design*:** | | | |
| Fueling Areas | ☐ | ☒ | None proposed. |
| Air/Water Supply Area Drainage | ☐ | ☒ | None proposed. |
| Trash Storage Areas | ☐ | ☒ | None proposed. |
| Loading Docks | ☐ | ☒ | None proposed. |
| Maintenance Bays | ☐ | ☒ | None proposed. |
| Vehicle and Equipment Wash Areas | ☐ | ☒ | None proposed. |
| Outdoor Material Storage Areas | ☐ | ☒ | None proposed. |
| Outdoor Work Areas or Processing Areas | ☐ | ☒ | None proposed. |
| Provide Wash Water Controls for Food Preparation Areas | ☐ | ☒ | None proposed. |

*Details demonstrating proper design must be included in Appendix F.

**Education of Property Owners, Operators, Tenants, Occupants, and Employees:**

The property owner shall be familiar with the contents of this document and shall utilize the BMP materials in Appendix D which includes copies of the BMP educational materials (described in Section 3.5.2.1 of the WQMP Guidance document) that will be used in implementing this project-specific WQMP and training staff on an annual basis.

**Activity Restrictions:**

Pesticide application shall be performed by a CA licensed contractor. No vehicle washing or servicing permitted. No hosing of spilled materials or any other materials into storm drains, with dry cleanup methods practiced.

**Storm Drain Inlet Stenciling/Placarding:**

Owner shall apply and maintain "No Dumping-Drains to River" messages on all on-site storm drain inlets, with annual inspection/replacement for legibility.

**Chamber Inspection/Maintenance:**

Retention/infiltration chamber shall be routinely inspected and cleaned as needed.

**Irrigation System & Landscape Maintenance:**

Irrigation system shall be routinely checked for leaks and other deficiencies and repaired as necessary. Landscape shall be routinely inspected and kept free of trash and debris. All landscape maintenance waste shall be properly collected and disposed of to prevent discharge into storm drains.

**Common Area Litter Control:**

All open and common areas shall be routinely inspected and kept free of trash and debris.

**Street Sweeping Private Streets & Parking Lots:**

Driveway, drive aisles, and parking lot areas shall be routinely inspected, swept, and kept free of trash and debris.

**Landscape & Irrigation System Design**

Proposed commercial landscaping shall be native and drought-tolerant. Proposed commercial landscaping and associated irrigation systems shall be maintained in accordance with all applicable City of Banning landscaping ordinance(s) and requirements and the approved, original Landscape Design.

**Protect Slopes & Channels**

Proposed landscaped slopes along the northern and western edges of the project and the drainage swale along the eastern edge of the site shall be routinely inspected for sedimentation and erosion and repaired as necessary.

**Trash Storage Areas**

Trash and waste storage areas will be constructed per approved grading plans and include an impervious paved area and solid canopy style roof (if City dumpsters are utilized) for storage of the state compliant receptacles that are provided by the refuse service provider.

## V.3 EQUIVALENT TREATMENT CONTROL BMP ALTERNATIVES

Not applicable – project proposes retention of urban runoff onsite in conformance with local City of Banning ordinance (per Table 6 of the WQMP Guidance document, "Local Land Use Authorities Requiring Onsite Retention of Storm Water").

## V.4 REGIONALLY-BASED BMPS

Not applicable.

# VI. Operation and Maintenance Responsibility for BMPs

Appendix G of this project-specific WQMP includes copies of CC&Rs, Covenant and Agreements, BMP Maintenance Agreement and/or other mechanisms used to ensure the ongoing operation, maintenance, funding, transfer and implementation of the project-specific WQMP requirements.

**Identification & Description of O&M for Applicable BMPs:**

- Irrigation system & landscape maintenance: Irrigation system shall be routinely checked for leaks and other deficiencies and repaired as necessary. Landscape areas shall be routinely inspected and kept free of trash and debris.

- Common area litter control: All open and common areas shall be routinely inspected and kept free of trash and debris.

- Street sweeping private streets & parking lots: Driveway, drive aisles, loading dock areas, and parking lot areas shall be routinely inspected, swept, and kept free of trash and debris.

- Drainage facility inspection & maintenance: Proposed retention/infiltration chamber, gravity separtor, on-site catch basins, and on-site storm drain lines on the site shall be routinely inspected and kept free of trash and debris.

- Protect slopes & channels: Proposed drainage swale along the eastern edge of the site and landscaped slopes along the northern and western edges of site shall be routinely inspected for sedimentation and erosion and repaired as necessary.

- Maintenance of Storm Drain Inlet stencils/placards: Proposed storm drain inlet stencils/placards shall be routinely inspected for legibility and replaced as necessary.

- Catch Basin Inlet Filters: Catch basin inlet filters shall be inspected after each major storm event and cleaned whenever the accumulation of floating debris and sediment exceeds 25% of the filter's capacity.

- Trash Storage Areas: Trash storage areas shall be inspected for damages and leaks, and repaired or replaced if needed.

**BMP Start-Up Dates:**

All BMP O&M described in this section shall begin immediately following construction.

**Schedule of Frequency of O&M for Each BMP:**

All BMP O&M described in this section shall occur (at a minimum) weekly and before, during, and after storm events.

**Identification of Parties Responsible for O&M:**

All BMP O&M described in this section is the responsible of the following party:
Brown Strauss, Inc.
2495 Uravan Street
Aurora, CO 80011
Tel. (310) 694-1001

**Self-Inspections & Record-Keeping Requirements for BMPs:**

All BMP O&M described in this section is the responsible of the following party:
Brown Strauss, Inc.
2495 Uravan Street
Aurora, CO 80011
Tel. (310) 694-1001

**Water Quality Monitoring:**

Water quality monitoring is not required by the City of Banning at this time.

# VII. Funding

The funding source for the operation and maintenance of all proposed BMPs is as follows:

Brown Strauss, Inc.
2495 Uravan Street
Aurora, CO 80011
Tel. (310) 694-1001

# Appendix A

## Conditions of Approval

Planning Commission Resolution _____

Dated _____

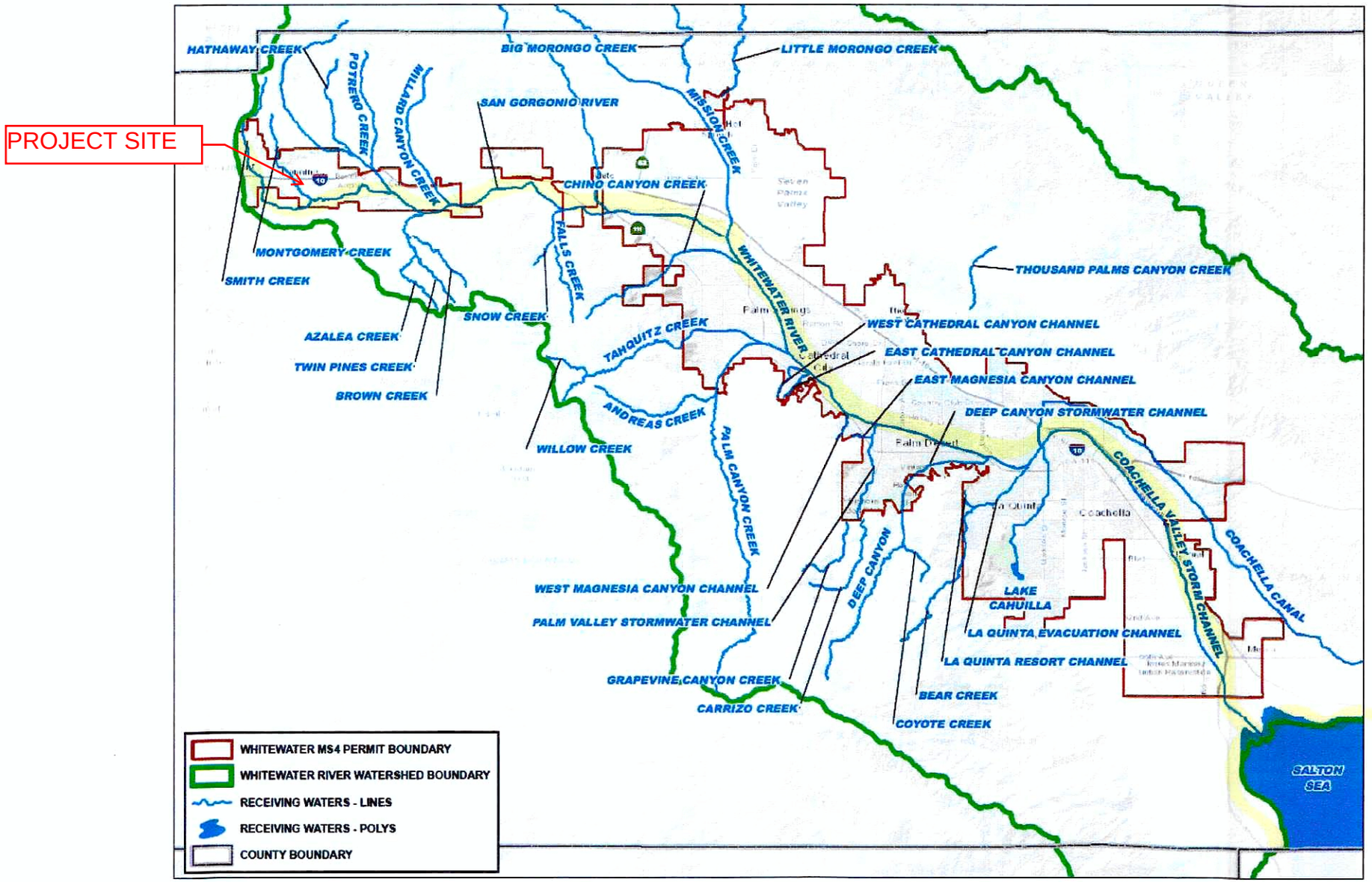
# Appendix B

Vicinity Map, WQMP Site Plan, and Receiving Waters Map

EXHIBIT "C" - PROJECT RECEIVING WATERS

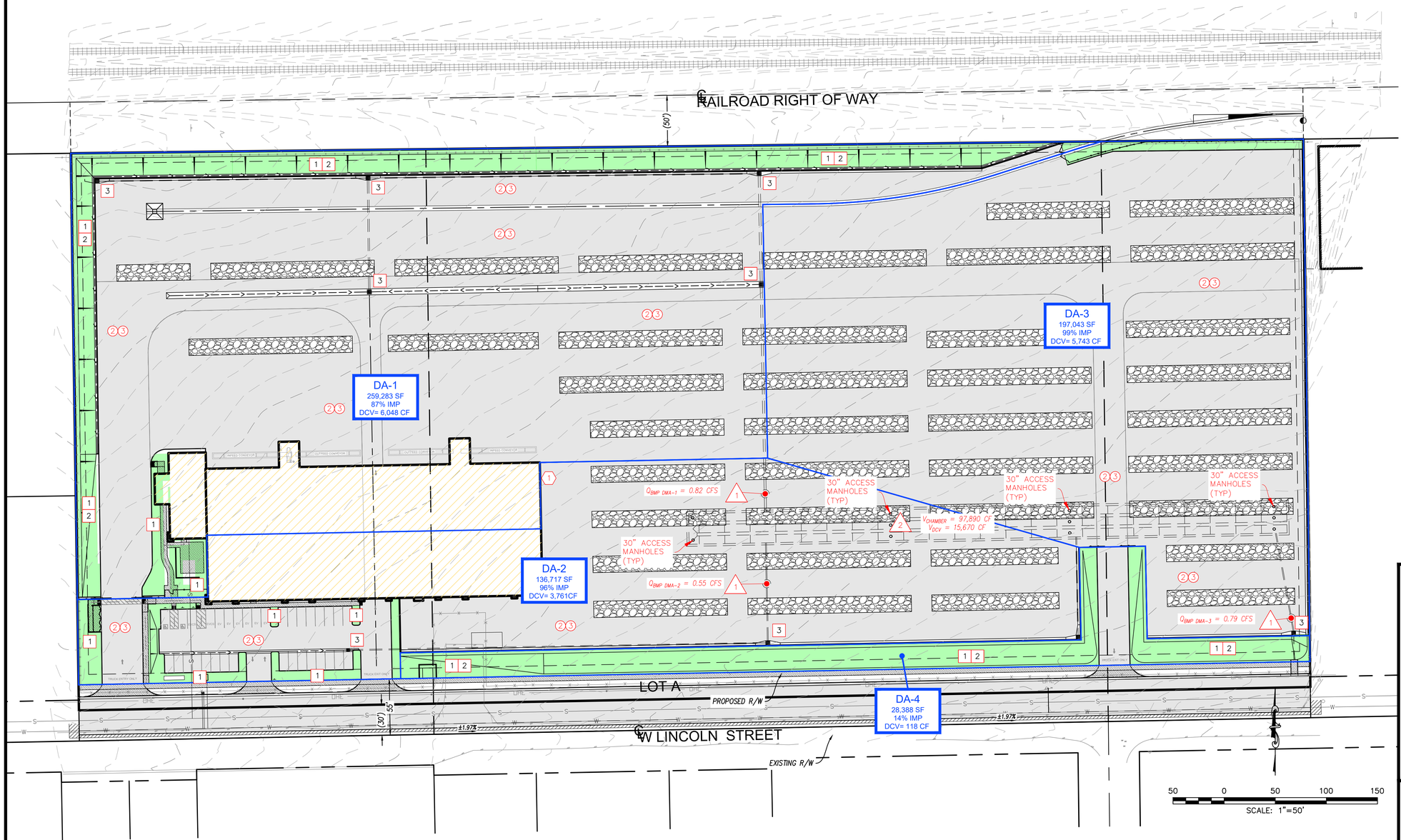


**Figure 2. Whitewater River Region Receiving Waters Map**



LEGEND:

- W.Q.M.P DRAINAGE AREA
- PROPERTY LIMITS
- FLOW LINE
- PROPOSED LANDSCAPING AREAS
- PROPOSED GRAVEL MATERIAL STORAGE AREAS
- PROPOSED A/C PAVING AREAS
- PROPOSED STRUCTURES




4" DIA
STORM DRAIN INLET MARKER
N.T.S.

OWNER INFORMATION:

BROWN STRAUSS, INC.
2495 URAVAN STREET
AURORA, CO 80011

CONTACT: KRIS FARRIS
PHONE: (310) 694-1001

NON-STRUCTURAL SOURCE CONTROL BMPs:

1. IRRIGATION SYSTEM AND LANDSCAPE MAINTENANCE (SC-44) (SC-73)
2. VEHICLE FLUID LEAKAGE AND SPILL CLEAN-UP ON PAVEMENT
3. STREET SWEEPING PRIVATE STREETS, LOADING DOCK AREAS, AND PARKING LOTS (SC-70)

STRUCTURAL SOURCE CONTROL BMPs:

1. LANDSCAPE AND IRRIGATION SYSTEM DESIGN
2. PROTECT SLOPES AND CHANNELS
3. STORM DRAIN INLET STENCILING AND SIGNAGE
   NOTE; A METAL/ALUMINUM PLACARD SHALL BE INSTALLED WITH PAINTED STENCILLED MESSAGE STATING "NO DUMPING-DRAINS TO RIVER".

PROPERLY DESIGN:

1. TRASH STORAGE AREAS (SD-32)
   NOTE: TRASH ENCLOSURES SHALL BE COVERED WITH A SOLID ROOF.

PROPOSED TREATMENT CONTROL BMP'S:

1. VORTEX SEPORATOR (MP-51)
2. INFILTRATION BASIN (TC-11)

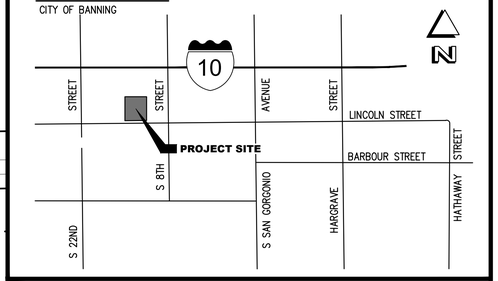
W.Q.M.P. NOTES:

1.) THIS IS NOT A CONSTRUCTION DOCUMENT. SEE APPROVED GRADING PLANS FOR BMP CONSTRUCTIONS DETAILS.

DA COVER INFORMATION:

| COVER TYPE: | QTY. |
|---|---|
| ROOF | 46,454 SF |
| CONCRETE/ASPHALT | 415,612 SF |
| GRAVEL | 92,982 SF |
| LANDSCAPING | 66,383 SF |
| TOTAL | 621,431 SF |

VICINITY MAP




# PRELIMINARY W.Q.M.P.

BROWN STRAUSS - BANNING
CITY OF BANNING, CA 92220
APN 540-180-020, 022, 026

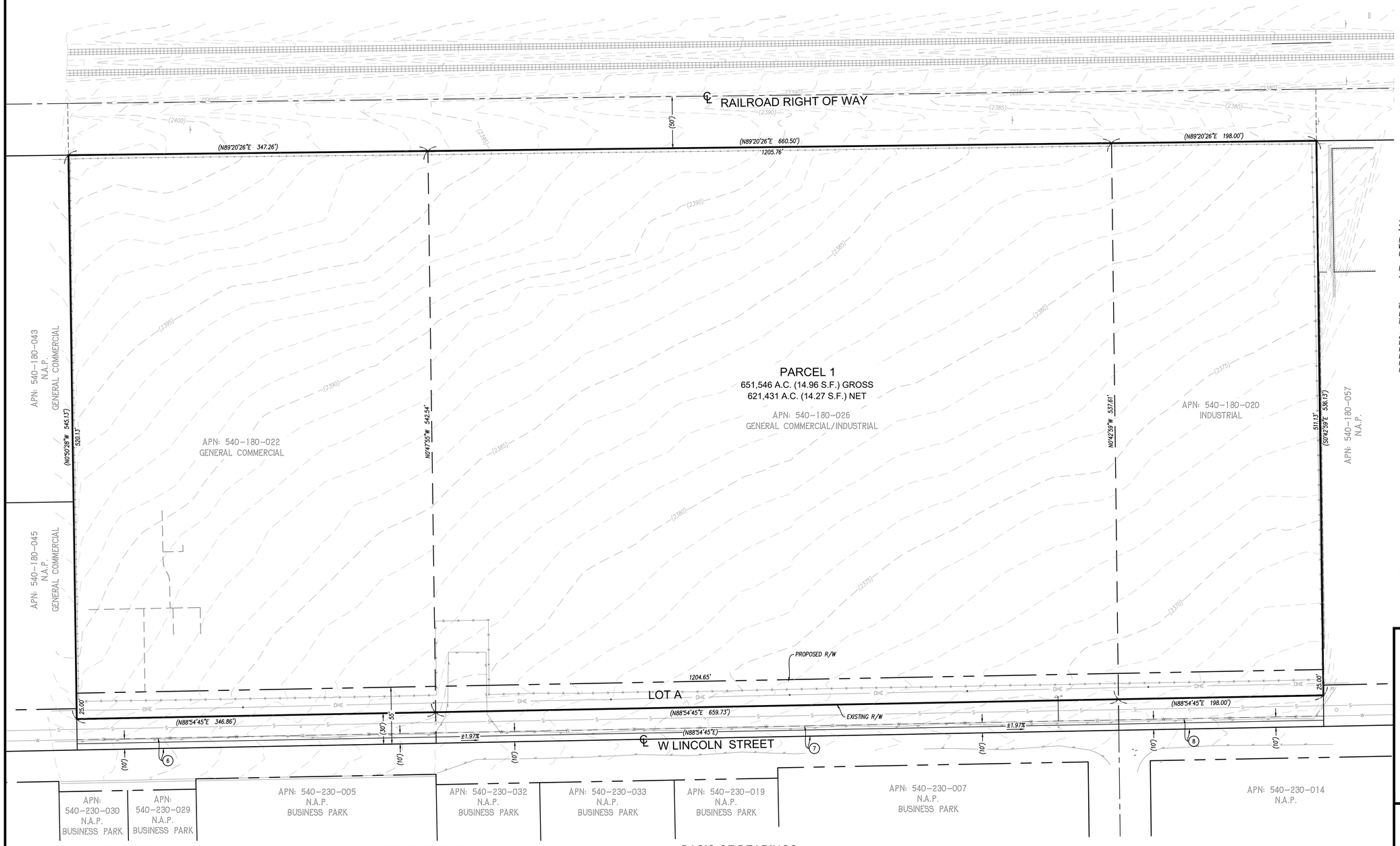

BONADIMAN
JOSEPH E. BONADIMAN & ASSOCIATES, INC.
ENGINEERS • G.I.S. • SURVEYING • PLANNING
TEL. (909) 885-3806
261 NORTH ARROWHEAD AVE.
SAN BERNARDINO, CA 92408
FAX (909) 381-1721
www.bonadiman.com


| | | | | | |
|---|---|---|---|---|---|
| PREPARED FOR: | BROWN STRAUSS, INC. | | | | |
| DRAWN BY: | JTS | SCALE: | 1" = 50' | SHEET: 1 OF 1 | |
| CHECKED BY: | JTS | JOB NO: | 225047 | | |
| DISREGARD PRINTS BEARING EARLIER REVISION DATES → | 09-07-23 | | | | |

# TENTATIVE PARCEL MAP No. 38659

# BROWN STRAUSS - BANNING

## IN THE CITY OF BANNING, CALIFORNIA




## OWNER/DEVELOPER

BROWN STRAUSS, INC.
2495 URAVAN STREET
AURORA, CO 80011

CONTACT: KRIS FARRIS
PHONE: (310) 694-1001

## EXHIBIT PREPARED BY

JOSEPH E. BONADIMAN & ASSOC, INC
234 N. SAN BERNARDINO, CA 92408
PHONE: (9090) 885-3806
FAX: (909) 381-1721
ATTN: ED BONADIMAN
EMAIL: ED@BONADIMAN.COM

## SITE INFORMATION

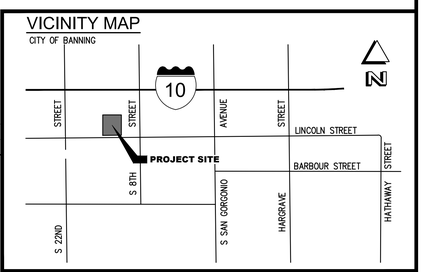
| | |
|---|---|
| PUBLIC ROADS: | |
| W. LINCOLN STREET: | ARTERIAL HIGHWAY |
| ULTIMATE R/W: | 110' |
| PARCELS: | |
| ASSESSOR'S PARCEL NUMBER: | 540-180-020, 022, & 026 |
| EX PARCEL 1: | 106,300 SF/2.44 AC |
| EX PARCEL 2: | 356,505 SF/8.18 AC |
| EX PARCEL 3: | 188,741 SF/4.33 AC |
| GROSS ACREAGE: | 651,546 SF/14.96 AC |
| LOT A: | 30,114SF/0.69 AC |
| NET ACREAGE: | 621,432 SF/14.27 AC |
| ZONING: | |
| EXISTING ZONING: | GENERAL COMMERCIAL & INDUSTRIAL |
| PROPOSED ZONING: | INDUSTRIAL |
| EXISTING LAND USE CATEGORY: | VACANT |
| PROPOSED LAND USE: | STEEL YARD |
| FEMA DESIGNATION: | UNSHADED ZONE X |

## LEGEND:

ASPH ASPHALT SURFACE
BT BOTTOM OF TRENCH
℄ CENTER LINE
(E) EXISTING
EP EDGE OF PAVEMENT
FF FINISH FLOOR
FG FINISH GRADE
FL FLOWLINE
FS FINISHED SURFACE
GB GRADE BREAK
GW GUY WIRE
INV INVERT OF PIPE
MH MANHOLE
NTS NOT TO SCALE
℗ PROPERTY LINE
PP POWER POLE
SMH SEWER MANHOLE
TC TOP OF CURB
TF TOP OF FOOTING
TG TOP OF GRATE
TW TOP OF WALL
TYP TYPICAL
UTIL UTILITY
W WROUGHT IRON
WV WATER VALVE

EXISTING CONCRETE SURFACE
PROPOSED CONCRETE SURFACE
PROPOSED AC PAVEMENT
RIGHT OF WAY
PROPERTY LINE
CENTERLINE
EXISTING BLOCK WALL
FLOWLINE
FILL SLOPE
INDICATES DIRECTION OF FLOW
(1500) EXITING CONTOUR (FEET)
1500 PROPOSED CONTOUR (FEET)
PROPOSED BLOCK WALL

## VICINITY MAP




## LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF BANNING, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1:
THE WESTERLY 198.00 FEET OF BLOCK 273 OF LANDS OF THE BANNING LAND COMPANY, IN THE CITY OF BANNING, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9, PAGE 44 OF MAPS, SAN BERNARDINO COUNTY RECORDS. EXCEPT THAT PORTION IN THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD COMPANY, ACQUIRED BY UNITED STATES CONGRESSIONAL GRANT.

PARCEL 2:
BLOCK 274 OF LANDS OF THE BANNING LAND COMPANY, IN THE CITY OF BANNING, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9, PAGE 44 OF MAPS, SAN BERNARDINO COUNTY RECORDS. EXCEPT THAT PORTION IN THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD COMPANY, ACQUIRED BY UNITED STATES CONGRESSIONAL GRANT.

PARCEL 3:
THE EAST ONE-HALF LOT OF 285 IN BANNING, AS SHOWN BY A CERTAIN MAP ENTITLED 'AMENDED MAP OF BANNING LAND CO., AS PER MAP RECORDED IN BOOK 9, PAGE 44 OF MAPS, RECORDS OF SAN BERNARDINO, CALIFORNIA. EXCEPTING THEREFROM THAT PORTION IN THE RIGHT OF WAY ACQUIRED BY THE UNITED STATES CONGRESSIONAL GRANT.

APN: 540-180-020, 540-180-022, AND 540-180-026

## EASEMENT NOTES

THE FOLLOWING ITEM WERE FOUND IN TITLE REPORT NO. 987-30095142-MAM DATED NOVEMBER 11, 2022 BY FIDELITY NATIONAL TITLE INSURANCE COMPANY:

PLOTTABLE ITEMS W/ (#)

3 COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS BUT OMITTING ANY COVENANTS OR RESTRICTIONS, AS SET FORTH IN THE DOCUMENT RECORDED IN BOOK 37, PAGE 234 DEED. THE EXACT LOCATION AND EXTENT OF SAID EASEMENT IS NOT DISCLOSED OF RECORD AND IS NOT PLOTTED HEREON.

4 EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS RESERVED IN A DOCUMENT: RESERVED BY: BANNING LAND COMPANY, A CORPORATION AND BANNING WATER COMPANY PURPOSE: INGRESS, EGRESS, CONSTRUCTION AND MAINTENANCE OF IRRIGATION DITCHED PIPES OR FLUMES RECORDING DATE: MARCH 18, 1895 RECORDING NO: IN BOOK 31, PAGE 50 DEEDS THE EXACT LOCATION AND EXTENT OF SAID EASEMENT IS NOT DISCLOSED OF RECORD AND IS NOT PLOTTED.

5 AN EASEMENT FOR DITCHED, PIPES OR FLUMES PURPOSES TO BANNING LAND COMPANY AND BANNING WATER COMPANY, RECORDED FEBRUARY 19, 1899 IN BOOK 92, PAGE 175, DEEDS. THE EXACT LOCATION AND EXTENT OF SAID EASEMENT IS NOT DISCLOSED OF RECORD AND IS NOT PLOTTED HEREON.

(6) AN EASEMENT FOR UTILITIES PURPOSES TO CITY OF BANNING, RECORDED MAY 12, 1958 AS INSTRUMENT NO. 34017, OFFICIAL RECORDS. EASEMENTS LIES WITHIN SURVEYED PROPERTY AND IS PLOTTED HEREON.

(7) AN EASEMENT FOR TELEPHONE LINES, CONSISTING OF POLES, NECESSARY GUYS AND ANCHORS PURPOSES TO CITY OF BANNING, RECORDED MAY 12, 1958 AS INSTRUMENT NO. 34023, OFFICIAL RECORDS. EASEMENT LIES WITHIN SURVEYED PROPERTY AND IS PLOTTED HEREON.

(8) AN EASEMENT FOR PIPE LINES AND CONDUITS PURPOSES TO THE CITY OF BANNING, RECORDED JULY 7, 1958 AS INSTRUMENT NO. 48052, OFFICIAL RECORDS. EASEMENTS AFFECTS SUBJECT PROPERTY AND IS PLOTTED HEREON.

## BASIS OF BEARINGS

THE BASIS OF BEARINGS USED ON THIS SURVEY IS THE CENTERLINE OF WEST LINCOLN STREET BEARING NORTH 88°54'45" EAST AS SHOWN ON RECORD OF SURVEY BOOK 112 PAGE 60 RECORDS OF SAID COUNTY.

## LIST OF ENCROACHMENTS

NONE TO STATE

## BENCHMARK INFORMATION

BENCHMARK NO. H1311

DESCRIPTION: IN BANNING, AT THE CROSSING OF THE SOUTHERN PACIFIC RAILROAD AND 8TH STREET, IN THE NORTHEAST END OF THE ABUTMENT OF A RAILROAD BRIDGE.

ELEVATION: 2,364.82 FEET (NAVD88)

## UTILITIES:

| | |
|---|---|
| WATER, SEWER, & TRASH: | CITY OF BANNING (951) 922-3185 |
| ELECTRICITY: | BANNING ELECTRIC UTILITY (951) 922-3185 |
| GAS: | THE GAS COMPANY (800) 427-2200 |

## FLOOD ZONE NOTE:

PROPERTY IS LOCATED WITHIN UNSHADED FEMA ZONE X: "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN."

PER FIRM NO. 06065C0817G EFFECTIVE DATE: AUGUST 28, 2008

40 0 40 80 120
SCALE: 1"=40'


BONADIMAN
JOSEPH E. BONADIMAN & ASSOCIATES, INC.
ENGINEERS - C.I.S. - SURVEYING - PLANNING
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SAN BERNARDINO, CA 92408
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## TENTATIVE PARCEL MAP No. 38659

BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220
APN 540-180-020, 022, 026

REVISIONS

| NO | DESCRIPTION | BY | APPROVED | DATE |
|---|---|---|---|---|
| | | | | |

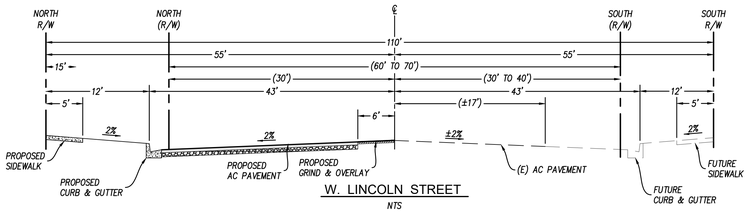
PREPARED FOR: BREMCO CONSTRUCTION

| | | | |
|---|---|---|---|
| DRAWN BY: JTS | SCALE: 1" = 60' | SHEET: 1 OF 3 | |
| CHECKED BY: JTS | JOB NO: 225047 | | |
| DISREGARD PRINTS BEARING EARLIER REVISION DATES → | 11-06-23 | | |

# PRELIMINARY SITE/GRADING PLAN

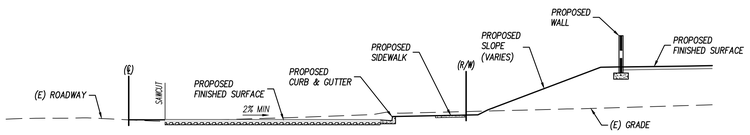
# BROWN STRAUSS - BANNING

## IN THE CITY OF BANNING, CALIFORNIA

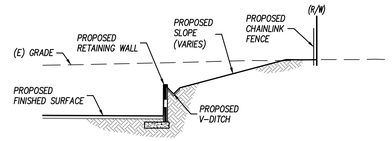



W. LINCOLN STREET

NTS




SECTION A




SECTION B

## OWNER/DEVELOPER

BROWN STRAUSS, INC.
2495 URAVAN STREET
AURORA, CO 80011

CONTACT: KRIS FARRIS
PHONE: (310) 694-1001

## ENGINEER

JOSEPH E. BONADIMAN & ASSOCIATES, INC.
234 N. ARROWHEAD
SAN BERNARDINO, CA 92408
TEL: (909) 885-3806
FAX: (909) 381-1721

## ARCHITECT

VERTREES A&E
532 E. LAMBERT ROAD
BREA, CA 92821
(714) 255-9645

## UTILITIES:

| | |
|---|---|
| WATER, SEWER, & TRASH: | CITY OF BANNING (951) 922-3185 |
| ELECTRICITY: | BANNING ELECTRIC UTILITY (951) 922-3185 |
| GAS: | THE GAS COMPANY (800) 427-2200 |

## PROJECT AREAS:

| | |
|---|---|
| GROSS AREA: | 687,683 SF/15.79 AC |
| NET AREA: | 621,431 SF/14.27 AC |
| DISTURBANCE AREA: | 687,683 SF/15.79 AC |
| BUILDING AREA | 46,454 SF/1.07 AC |
| WAREHOUSE | 43,510 SF |
| OFFICE | 3,452 SF |
| CONCRETE/ASPHALT | 419,539 SF/9.63 AC |
| GRAVEL | 92,982 SF/2.13 AC |
| LANDSCAPING | 62,456 SF/1.44 AC |
| TOTAL | 621,431 SF/14.27 AC |

## SITE INFORMATION

| | |
|---|---|
| PUBLIC ROADS: | |
| W. LINCOLN STREET: | ARTERIAL HIGHWAY |
| ULTIMATE R/W: | 110' |
| PARCELS: | |
| ASSESSOR'S PARCEL NUMBER: | 540-180-020, 022, & 026 |
| EX PARCEL 1: | 106,300 SF/2.44 AC |
| EX PARCEL 2: | 356,505 SF/8.18 AC |
| EX PARCEL 3: | 188,741 SF/4.33 AC |
| GROSS ACREAGE: | 651,546 SF/14.96 AC |
| LOT A: | 30,114SF/0.69 AC |
| NET ACREAGE: | 621,432 SF/14.27 AC |
| ZONING: | |
| EXISTING ZONING: | GENERAL COMMERCIAL & INDUSTRIAL |
| PROPOSED ZONING: | INDUSTRIAL |
| EXISTING LAND USE CATEGORY: | VACANT |
| PROPOSED LAND USE: | STEEL YARD |
| FEMA DESIGNATION: | UNSHADED ZONE X |

## EARTHWORK ESTIMATE QUANTITIES:

CONSTRUCTION MAY VARY.

CUT 47,965 CUBIC YARDS
FILL 45,717 CUBIC YARDS

EARTH WORK QUANTITIES NOTE: THE ABOVE LISTED QUANTITIES REFLECT THE ENGINEER'S ESTIMATE OF THE RAW VOLUMES OF MATERIAL CUT AND FILLED. THESE QUANTITIES ARE FOR ESTIMATING AND BONDING PURPOSE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR COMPUTING HIS OWN QUANTITIES FOR CONTRACT PURPOSES.

## FLOOD ZONE NOTE:

PROPERTY IS LOCATED WITHIN UNSHADED FEMA ZONE X: "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN."

PER FIRM NO. 06065C0817G EFFECTIVE DATE: AUGUST 28, 2008

## SOURCE OF TOPOGRAPHY:

MAPPING OF EXISTING CONDITIONS WERE ESTABLISHED BY 1-FOOT CONTOUR INTERVALS, PROVIDED BY ANACAL ENGINEERING COMPANY PER ALTA SURVEY DATED NOVEMBER 30, 2022.

## CONSTRUCTION NOTES

1.) CONTRACTOR SHALL CONTACT THE INSPECTION DIVISION OF THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO STARING WORK ON THE PROJECT.

2.) A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION. THIS MEETING SHALL BE SCHEDULED WITH THE DEPARTMENT OF PUBLIC WORKS AT THE TIME THE NOTIFICATION OF WORK COMMENCEMENT IS GIVEN.

## DRAINAGE NOTES

REFER TO THE PRELIMINARY HYDROLOGY & HYDRAULICS REPORT PREPARED BY JOSEPH E. BONADIMAN & ASSOCIATES, INC. (FEBUARY 2023) FOR LOCATION OF OFFSITE AND ONSITE DRAINAGE AREAS, RELIMINARY SIZING OF DRAINAGE FACILITIES, AND AN OVERLAY OF THE PROJECT SITE ON APPLICABLE FEMA FLOOD MAP(S).

## OWNER STATEMENT

"I AM THE OWNER OF THE PROPERTY AFFECTED BY THIS SITE PLAN. PRIOR TO REQUESTING A CERTIFICATE OF OCCUPANCY, I WILL SUBMIT A NOTARIZED STATEMENT AS FOLLOWS: 'I CERTIFY THAT THE SITE IMPROVEMENTS ARE COMPLETE AND IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.' THIS CERTIFICATION WILL BE BASED ON OBSERVATIONS OF AND SUPERVISION OF CONSTRUCTION BY MY REPRESENTATIVE OR ME. I UNDERSTAND THAT THE CERTIFICATE OF OCCUPANCY WILL NOT BE APPROVED UNTIL THIS CERTIFICATION HAS BEEN MADE."

## LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF BANNING, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1:
THE WESTERLY 198.00 FEET OF BLOCK 273 OF LANDS OF THE BANNING LAND COMPANY, IN THE CITY OF BANNING, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9, PAGE 44 OF MAPS, SAN BERNARDINO COUNTY RECORDS. EXCEPT THAT PORTION IN THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD COMPANY, ACQUIRED BY UNITED STATES CONGRESSIONAL GRANT.

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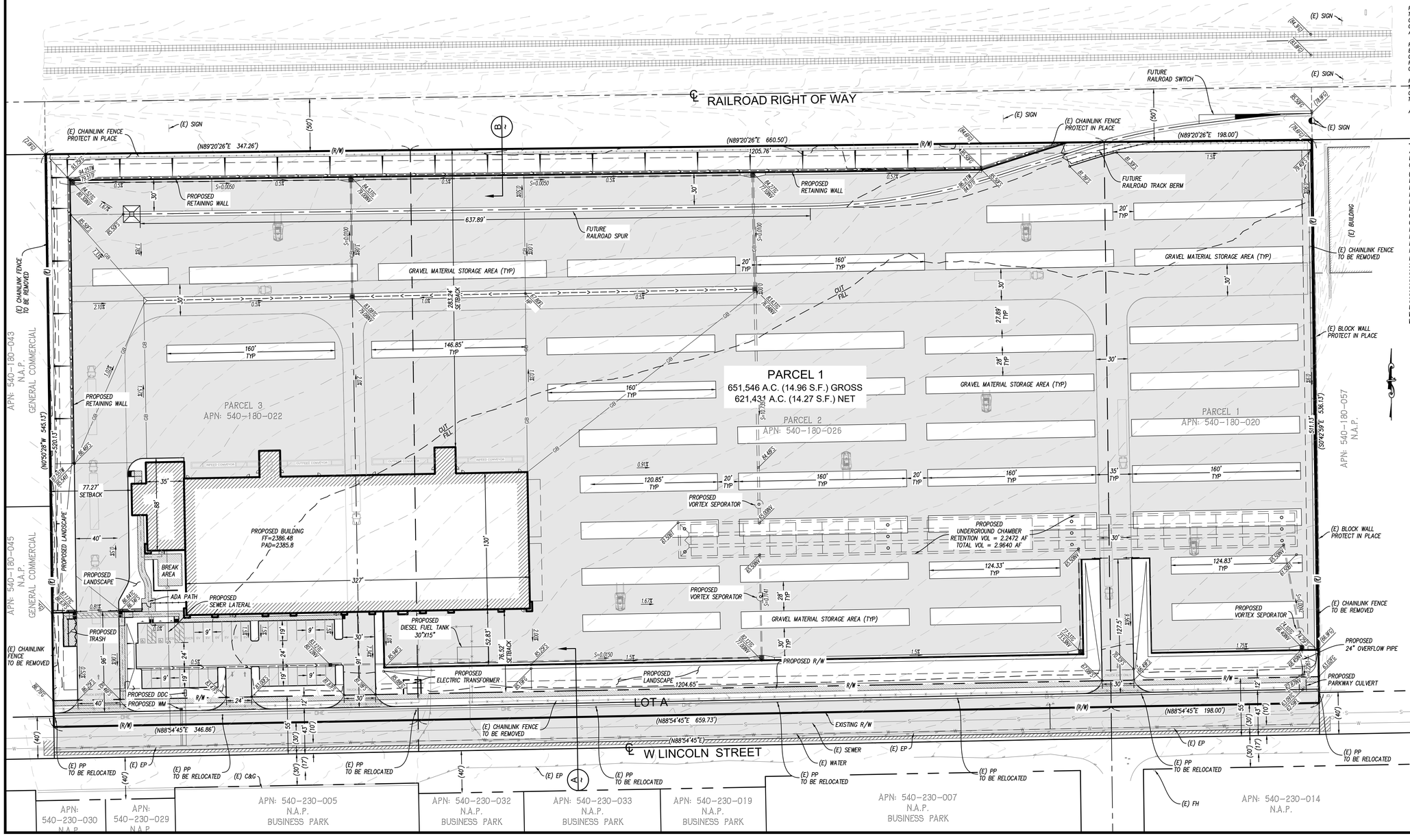
APN: 540-180-020, 540-180-022, AND 540-180-026



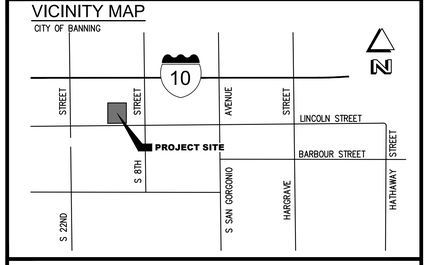

## LEGEND:

| | |
|---|---|
| ASPH ASPHALT SURFACE | EXISTING CONCRETE SURFACE |
| BT BOTTOM OF TRENCH | PROPOSED CONCRETE SURFACE |
| ℄ CENTER LINE | PROPOSED AC PAVEMENT |
| (E) EXISITNG | |
| EP EDGE OF PAVEMENT | |
| FF FINISH FLOOR | |
| FG FINISH GRADE | RIGHT OF WAY |
| FL FLOWLINE | PROPERTY LINE |
| FS FINISHED SURFACE | |
| GB GRADE BREAK | CENTERLINE |
| GW GUY WIRE | |
| INV INVERT OF PIPE | EXISTING BLOCK WALL |
| MH MANHOLE | |
| NTS NOT TO SCALE | FLOWLINE |
| ℄ PROPERTY LINE | |
| PP POWER POLE | FILL SLOPE |
| SMH SEWER MANHOLE | |
| TC TOP OF CURB | INDICATES DIRECTION OF FLOW |
| TF TOP OF FOOTING | |
| TG TOP OF GRATE | EXITING CONTOUR (FEET) |
| TW TOP OF WALL | |
| TYP TYPICAL | PROPOSED CONTOUR (FEET) |
| UTIL UTILITY | |
| WI WROUGHT IRON | PROPOSED BLOCK WALL |
| WV WATER VALVE | |

40 0 40 80 120

SCALE: 1"=40'

## VICINITY MAP





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# PRELIMINARY SITE/GRADING PLAN

BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220
APN 540-180-020, 022, 026

REVISIONS

| NO | DESCRIPTION | BY | APPROVED | DATE |
|---|---|---|---|---|
| | | | | |

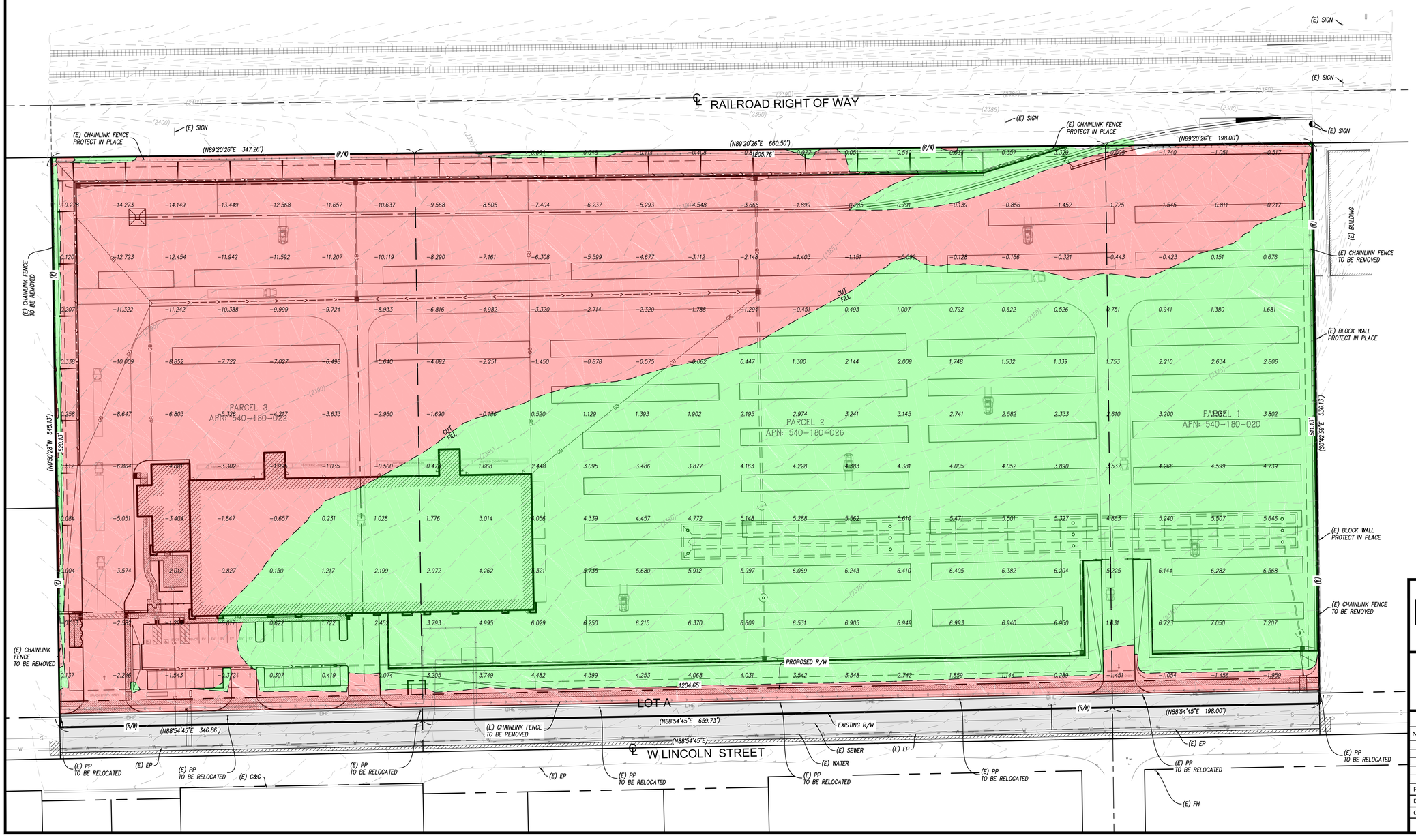
PREPARED FOR: BREMCO CONSTRUCTION

| | | | |
|---|---|---|---|
| DRAWN BY: JTS | SCALE: 1" = 40' | SHEET: 2 OF 3 | |
| CHECKED BY: JTS | JOB NO: 225047 | | |
| DISREGARD PRINTS BEARING EARLIER REVISION DATES → | 11-06-23 | | |

# PRELIMINARY CUT/FILL MAP

# BROWN STRAUSS - BANNING

IN THE CITY OF BANNING, CALIFORNIA




## EARTHWORK ESTIMATE QUANTITIES:

*CONSTRUCTION MAY VARY.*

*CUT 47,965 CUBIC YARDS*
*FILL 45,717 CUBIC YARDS*

*EARTH WORK QUANTITIES NOTE: THE ABOVE LISTED QUANTITIES REFLECT THE ENGINEER'S ESTIMATE OF THE RAW VOLUMES OF MATERIAL CUT AND FILLED. THESE QUANTITIES ARE FOR ESTIMATING AND BONDING PURPOSE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR COMPUTING HIS OWN QUANTITIES FOR CONTRACT PURPOSES.*

| Elevations Table | | | |
|---|---|---|---|
| Number | Minimum Elevation | Maximum Elevation | Color |
| 1 | −15.9515 | 0.0000 | |
| 2 | 0.0000 | 7.7000 | |

40 0 40 80 120

SCALE: 1"=40'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## PRELIMINARY CUT/FILL MAP

BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220
APN 540-180-020, 022, 026

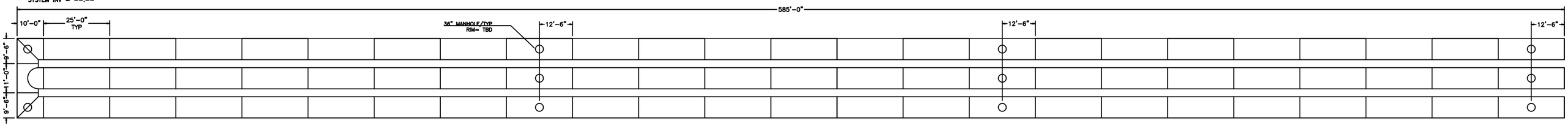
REVISIONS

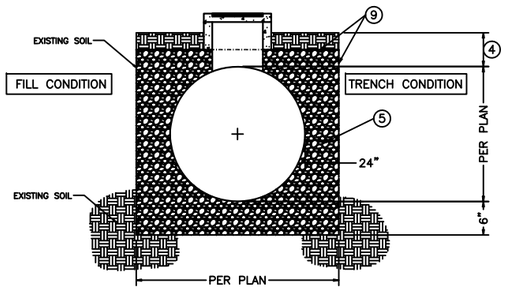
| NO | DESCRIPTION | BY | APPROVED | DATE |
|---|---|---|---|---|
| | | | | |

PREPARED FOR: BREMCO CONSTRUCTION

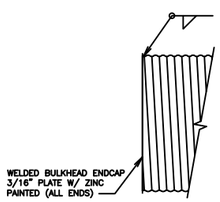
| | | | |
|---|---|---|---|
| DRAWN BY: JTS | SCALE: 1" = 40' | SHEET: 3 OF 3 | |
| CHECKED BY: JTS | JOB NO: 225047 | | |
| DISREGARD PRINTS BEARING EARLIER REVISION DATES → | 11-06-23 | | |

**DESIGN INFORMATION**
MATERIAL FINISH =ALZD TYPE II
PIPE GAUGE = 16
PERFORATED = YES
DIAMETER = 96"
LOADING = H20/H25
SYSTEM INV = --.--




A–A SECTION

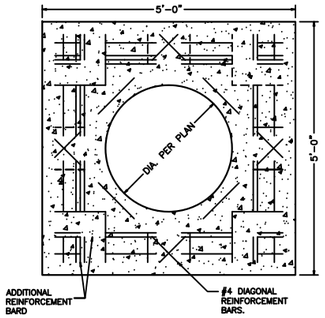



B–B
TYPICAL BULKHEAD

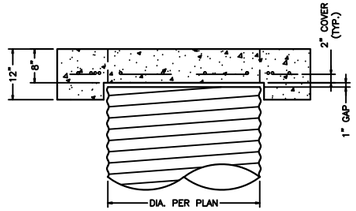
NOTES:
1. RIGID OR FLEXIBLE PAVEMENT.
2. GRANULAR ROAD BASE.
3. NORMAL ROADWAY EMBANKMENT FILL PLACED IN 8" LIFTS AND COMPACTED TO MIN. 90% STANDARD DENSITY PER AASHTO T–99.
4. 12" MIN. FOR DIAMETERS THROUGH 96", 18" MIN. FOR DIAMETERS FROM 102" AND UP. MEASURE FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF PIPE TO TOP OF RIGID PAVEMENT.
5. FREE DRAINING ANGULAR WASHED STONE 3/4" – 2" AROUND PIPE ENVELOPE AS SHOWN OR OTHERWISE NOTED.
6. 5 x 1" CSP GAGE PER AASHTO SECTION12.
7. NOT USED
8. LISTED SPACING CHART IS FOR MULTIPLE PIPE INSTALLATION. FOR SINGLE RUN, THE TRENCH REQUIRES ONLY THE BOTTOM WIDTH OF THE PIPE'S SPAN, PLUS ROOM FOR COMPACTION EQUIPMENT.

| SPACING CHART PER AISI AND NCSPA GUIDELINES | |
|---|---|
| DIAMETER | REQUIRED SPACING |
| UP TO 24" | 12" |
| 24" – 72" | 1/2 PIPE DIA. |
| 72" AND UP | 36" |

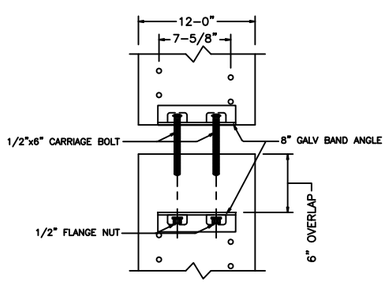
9. 4 oz. NON WOVEN GEOTEXTILE FABRIC.
10. RELATIVELY LOOSE GRANULAR BEDDING ROUGHLY SHAPED TO FIT BOTTOM OF PIPE, 4" TO 6" IN DEPTH. (#57 OR #8 OR OTHER SUITABLE GRANULAR).



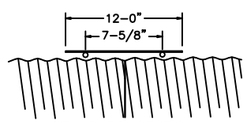

PLAN VIEW
N.T.S.




ACCESS RISER DETAIL
N.T.S.

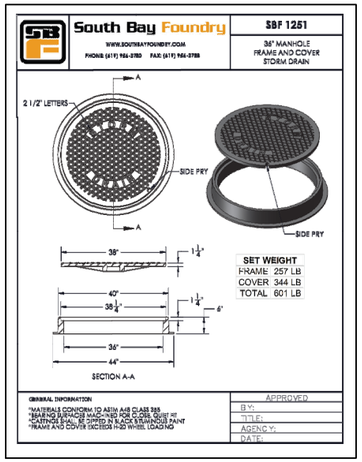



DIMPLE BAND DETAIL
N.T.S.




STANDARD SECTION
N.T.S.

GENERAL NOTES:
1. BANDS ARE FURNISHED AS FOLLOWS:
   12" THRU 48" – 1–PIECE
   54" THRU 96" – 2 PIECE
   102" THRU 144" – 3 PIECE
2. GALV BAND ANGLES ARE ATTACHED WITH SPOT WELDS, RIVETS OR HAND WELDED.
3. DIMMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
4. DIMPLE BANDS FOR ARCHED PIPE ARE THE SAME AS FOR EQUIVALENT ROUND PIPE DIAMETER.




PACIFIC CORRUGATED PIPE CO.®
13680 SLOVER AVENUE FONTANA, CA 92337
800.338.5858 * 909.829.4235
Fx: 909.829.8035
SOCAL@PCPIPE.COM

NOTE:
THE SUITABILITY OF THE INFORMATION PRESENTED FOR USE ON ANY PARTICULAR PROJECT SHOULD BE DETERMINED BY THE ENGINEER RESPONSIBLE FOR THE DESIGN.

PROJECT NAME: BANNING
PROJECT #:

SIGN & DATE TO RELEASE FOR MANUFACTURE (SUBJECT TO PRICE VERIFICATION)
PLANS APPROVED
☐ (AS NOTED) ☐ (W/CHANGES)
DATE SIGNATURE

| REV. | DESCRIPTION | DATE |
|---|---|---|
| 0 | BROWN STRAUSS STEEL | |

DRAWN BY: C.CLARK
SCALE: AS NOTED
DATE: 11/06/23
SHEET NO: 1 OF 1

# Appendix C

Supporting Detail Related to Hydrologic Conditions of Concern

The project is required to retain and treat the stormwater runoff hydrograph volume for a 100 year, 3 hour duration event in the post-development condition, via storage in the proposed on-site retention/infiltration basin, per City Ordinance #1415. See Appendix F calculations.

# Appendix D

Educational Materials

# After the Storm

## What is stormwater runoff?



Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

## Why is stormwater runoff a problem?



Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

## The effects of pollution



Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.





A Citizen's Guide to Understanding Stormwater

EPA 833-B-03-002
January 2003

For more information contact:

or visit
www.epa.gov/npdes/stormwater
www.epa.gov/nps

# Stormwater Pollution Solutions




*Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.*

## Residential



*Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.*

### Auto care




Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

### Lawn care



Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

### Septic systems



Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

### Pet waste



Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

### Residential landscaping

**Permeable Pavement**—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.



**Rain Barrels**—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.



**Rain Gardens and Grassy Swales**—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

**Vegetated Filter Strips**—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

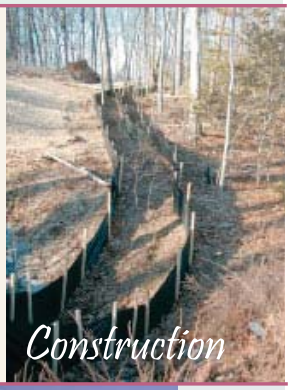
## Commercial



Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

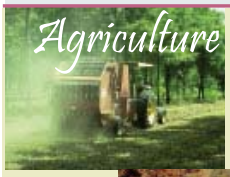
## Construction



Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.

## Agriculture

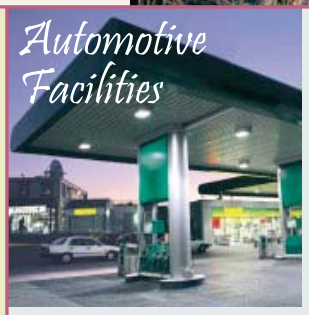


Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.



- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.

## Automotive Facilities



Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.

## Forestry



Improperly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.

# For Information:

**LOCAL SEWERING AGENCIES IN RIVERSIDE COUNTY:**

| | |
|---|---|
| City of Beaumont | (909) 769-8520 |
| Belair Homeowners Association | (909) 277-1414 |
| City of Banning | (909) 922-3130 |
| City of Blythe | (760) 922-6161 |
| City of Coachella | (760) 391-5008 |
| Coachella Valley Water District | (760) 398-2651 |
| City of Corona | (909) 736-2259 |
| Desert Center, CSA #51 | (760) 227-3203 |
| Eastern Municipal Water District | (909) 928-3777 |
| Elsinore Valley MWD | (909) 674-3146 |
| Farm Mutual Water Company | (909) 244-4198 |
| Idyllwild Water District | (909) 659-2143 |
| Jurupa Community Services Dist. | (909) 685-7434 |
| Lake Hemet MWD | (909) 658-3241 |
| Lee Lake Water District | (909) 277-1414 |
| March Air Force Base | (909) 656-7000 |
| Mission Springs Water District | (760) 329-6448 |
| City of Palm Springs | (760) 323-8242 |
| Rancho Caballero | (909) 780-9272 |
| Rancho California Water Dist. | (909) 676-4101 |
| Ripley, CSA #62 | (760) 922-4909 |
| Rubidoux Community Services Dist. | (909) 684-7580 |
| City of Riverside | (909) 782-5341 |
| Silent Valley Club, Inc | (909) 849-4501 |
| Valley Sanitary District | (760) 347-2356 |
| Western Municipal Water District | (909) 780-4170 |

**SPILL RESPONSE AGENCY:**

HAZ-MAT: (909) 358-5055

**HAZARDOUS WASTE DISPOSAL:** (909) 358-5055

**TO REPORT ILLEGAL DUMPING OR A CLOGGED STORM DRAIN:** 1-800-506-2555

StormWater CleanWater PROTECTION PROGRAM

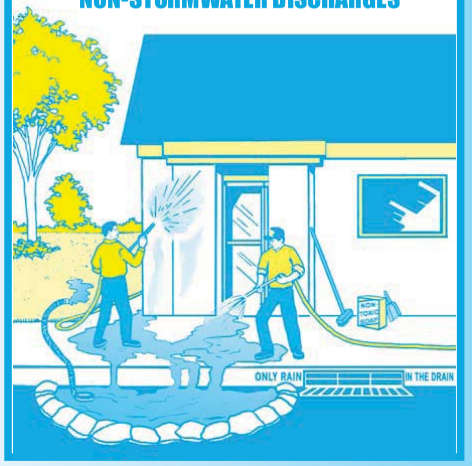
Riverside County gratefully acknowledges the Bay Area Stormwater Management Agencies Association and the Cleaning Equipment Trade Association for information provided in this brochure.

# StormWater Pollution

## What you should know for...

## OUTDOOR CLEANING ACTIVITIES

### NON-STORMWATER DISCHARGES




## GUIDELINES for disposal of washwater from:

- Sidewalk, plaza or parking lot cleaning
- Vehicle washing or detailing
- Building exterior cleaning
- Waterproofing
- Equipment cleaning or degreasing

## Do you know . . . where the water should go?




Riverside County has two drainage systems - sanitary sewers and storm drains. The storm drain system is designed to prevent flooding by carrying excess rainwater away from streets. . . it's not designed to be a waste disposal system. Since the storm drain system does not provide for water treatment, it often serves the unintended function of transporting pollutants directly to our waterways.

Unlike sanitary sewers, storm drains are not connected to a treatment plant - they flow directly to our local streams, rivers and lakes.

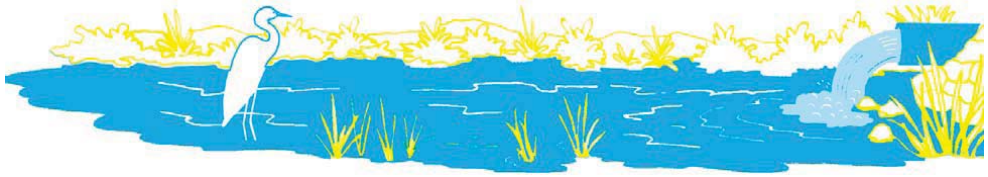
Soaps, degreasers, automotive fluids, litter, and a host of other materials washed off buildings, sidewalks, plazas, parking areas, vehicles, and equipment can all pollute our waterways.

Non-stormwater discharges such as washwater generated from outdoor cleaning projects often transport harmful pollutants into storm drains and our local waterways. Polluted runoff contaminates local waterways and poses a threat to groundwater resources.

## The Cities and County of Riverside StormWater/CleanWater Protection Program

Since preventing pollution is much easier, and less costly than cleaning up "after the fact," the Cities and County of Riverside StormWater/CleanWater Protection Program informs residents and businesses of pollution prevention activities such as those described in this pamphlet.

The Cities and County of Riverside have adopted ordinances for stormwater management and discharge control. In accordance with state and federal law, these local stormwater ordinances **prohibit** the discharge of wastes into the storm drain system or local surface waters. This includes non-stormwater discharges containing oil, grease, detergents, degreasers, trash, or other waste materials.



**PLEASE NOTE:** The discharge of pollutants into the street, gutters, storm drain system, or waterways - without a Regional Water Quality Control Board permit or waiver - is ***strictly prohibited*** by local ordinances and state and federal law.

# Help Protect Our Waterways!

## Use These Guidelines For Outdoor Cleaning Activities and Washwater Disposal

**DO . . .** Dispose of **small amounts** of **washwater from cleaning building exteriors, sidewalks, or plazas** onto landscaped or unpaved surfaces provided you have the owner's permission and the discharge will not cause flooding or nuisance problems, or flow into a storm drain.

**DO NOT . . .** Discharge **large amounts** of these types of washwater onto landscaped areas or soil where water may run to a street or storm drain. Wastewater from exterior cleaning may be pumped to a sewer line with specific permission from the local sewering agency.

**DO . . .** Check with your local sewering agency's policies and requirements concerning waste water disposal. **Water from many outdoor cleaning activities** may be acceptable for disposal to the sewer system. See the list on the back of this flyer for phone numbers of the sewering agencies in your area.

**DO NOT . . .** Pour **hazardous wastes** or toxic materials into the storm drain or sewer system . . . properly dispose of it instead. When in doubt, contact the local sewering agency! The agency will tell you what types of liquid wastes can be accepted.

**DO . . .** Understand that **water (without soap) used to remove dust from clean vehicles** may be discharged to a street or storm drain. **Washwater from sidewalk, plaza, and building surface cleaning** may go into a street or storm drain if ALL of the following conditions are met:

1) The surface being washed is free of residual oil stains, debris and similar pollutants by using dry cleanup methods (sweeping, and cleaning any oil or chemical spills with rags or other absorbent materials before using water).
2) Washing is done with water only - no soap or other cleaning materials.
3) You have not used the water to remove paint from surfaces during cleaning.

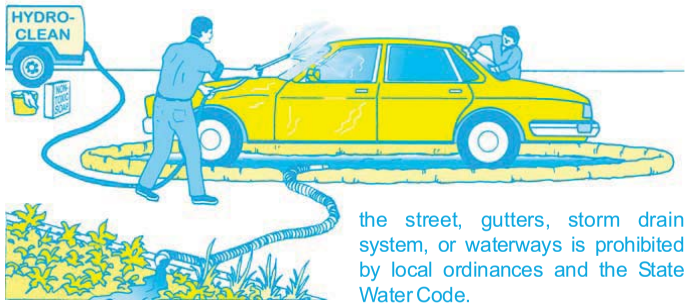
**DO NOT . . .** Dispose of water containing **soap or any other type of cleaning agent** into a storm drain or water body. This is a direct violation of state and/or local regulations. Because **wastewater from cleaning parking areas or roadways** normally contains metallic brake pad dust, oil and other automotive fluids, it should never be discharged to a street, gutter, or storm drain.

**DO . . .** Understand that **mobile auto detailers** should divert washwater to landscaped or dirt areas. Note: Be aware that soapy washwater may adversely affect landscaping; consult with the property owner. Residual washwater may remain on paved surfaces to evaporate; sweep up any remaining residue. If there is sufficient water volume to reach the storm drain, collect the runoff and obtain permission to pump it into the sanitary sewer. Follow local sewering agency's requirements for disposal.

**DO NOT . . .** Dispose of left over cleaning agents into the gutter, storm drain or sanitary sewer.

## Regarding Cleaning Agents:

If you must use soap, use biodegradable/phosphate free cleaners. Avoid use of petroleum based cleaning products. Although the use of nontoxic cleaning products is strongly encouraged, ***do*** understand that these products can still degrade water quality and, therefore, the discharge of these products into




the street, gutters, storm drain system, or waterways is prohibited by local ordinances and the State Water Code.

**Note:** When cleaning surfaces with a high pressure washer or steam cleaning methods, additional precautions should be taken to prevent the discharge of pollutants into the storm drain system. These two methods of surface cleaning, as compared to the use of a low pressure hose, can remove additional materials that can contaminate local waterways.

## Other Tips to Help Protect Our Water . . .

### Screening Wash Water

A thorough dry cleanup before washing (without soap) surfaces such as building exteriors and decks without loose paint, sidewalks, or plaza areas, *should be sufficient to protect storm drains*. **However,** if any debris (solids) could enter storm drains or remain in the gutter or street after cleaning, washwater should first pass through a "20 mesh" or finer screen to catch the solid material, which should then be disposed of in the trash.

### Drain Inlet Protection/ Containing & Collecting Wash Water

- Sand bags can be used to create a barrier around storm drain inlets.
- Plugs or rubber mats can be used to temporarily seal storm drain openings.
- You can also use vacuum booms, containment pads, or temporary berms to keep wash water away from the street, gutter, or storm drain.

### Equipment and Supplies

Special materials such as absorbents, storm drain plugs and seals, small sump pumps, and vacuum booms are available from many vendors. For more information check catalogs such as New Pig (800-468-4647), Lab Safety Supply (800-356-0783), C&H (800-558-9966), and W.W. Grainger (800-994-9174); or call the Cleaning Equipment Trade Association (800-441-0111) or the Power Washers of North America (800-393-PWNA).

# Stormwater Pollution Found in Your Area!

**This is not a citation.**

This is to inform you that our staff found the following pollutants in the storm sewer system in your area. This storm sewer system leads directly to

_____ .

- ❑ Motor oil
- ❑ Oil filters
- ❑ Antifreeze/ transmission fluid
- ❑ Paint
- ❑ Solvent/degreaser
- ❑ Cooking grease
- ❑ Detergent
- ❑ Home improvement waste (concrete, mortar)
- ❑ Pet waste
- ❑ Yard waste (leaves, grass, mulch)
- ❑ Excessive dirt and gravel
- ❑ Trash
- ❑ Construction debris
- ❑ Pesticides and fertilizers
- ❑ Other





_____

**For more information or to report an illegal discharge of pollutants, please call:**

**Riverside County Residents, Call . . .**
**1-800-506-2555**



WHEN IT RAINS
IT DRAINS

EPA
United States
Environmental Protection
Agency

*www.epa.gov/npdes/stormwater*

EPA 833-F-03-002
April 2003

Stormwater runoff is precipitation from rain or snowmelt that flows over the ground. As it flows, it can pick up debris, chemicals, dirt, and other pollutants and deposit them into a storm sewer system or waterbody.

Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

## Remember: Only Rain Down the Drain

To keep the stormwater leaving your home or workplace clean, follow these simple guidelines:




- Use pesticides and fertilizers sparingly.
- Repair auto leaks.
- Dispose of household hazardous waste, used auto fluids (antifreeze, oil, etc.), and batteries at designated collection or recycling locations.
- Clean up after your pet.
- Use a commercial car wash or wash your car on a lawn or other unpaved surface.
- Sweep up yard debris rather than hosing down areas. Compost or recycle yard waste when possible.
- Clean paint brushes in a sink, not outdoors. Properly dispose of excess paints through a household hazardous waste collection program.
- Sweep up and properly dispose of construction debris like concrete and mortar.



# Stormwater Pollution

*What you should know for...*

# Industrial & Commercial Facilities

Best Management Practices (BMPS) for:

- Industrial Facilities
- Commercial Facilities



## Riverside County Stormwater Program Members

City of Banning
(951) 922-3105

City of Beaumont
(951) 769-8520

City of Calimesa
(909) 795-9801

City of Canyon Lake
(951) 244-2955

City of Cathedral City
(760) 770-0340

City of Coachella
(760) 398-3502

City of Corona
(951) 736-2447

City of Desert Hot Springs
(760) 329-6411

City of Eastvale
(951) 361-0900

City of Hemet
(951) 765-2300

City of Indian Wells
(760) 346-2489

City of Indio
(760) 391-4000

City of Jurupa Valley
(951) 332-6464

City of Lake Elsinore
(951) 674-3124

City of La Quinta
(760) 777-7000

City of Menifee
(951) 672-6777

City of Moreno Valley
(951) 413-3000

City of Murrieta
(951) 304-2489

City of Norco
(951) 270-5607

City of Palm Desert
(760) 346-0611

City of Palm Springs
(760) 323-8299

City of Perris
(951) 943-6100

City of Rancho Mirage
(760) 324-4511

City of Riverside
(951) 826-5311

City of San Jacinto
(951) 487-7330

City of Temecula
(951) 694-6444

City of Wildomar
(951) 677-7751

Coachella Valley Water District
(760) 398-2651

County of Riverside
(951) 955-1000

Riverside County Flood Control District
(951) 955-1200

# YOU can prevent Stormwater Pollution following these practices...

## *Industrial and Commercial Facilities*

The Riverside County Stormwater Program has identified a number of Best Management Practices (BMPs) for Industrial and Commercial Facilities. These BMPs control and reduce stormwater pollutants from reaching our storm drain system and ultimately our local water bodies. City and County ordinances require businesses to use these BMPs to protect our water quality. Local cities and the County are required to verify implementation of these BMPs by performing regular facility inspections.

## *Prohibited Discharges*

Discontinue all non-stormwater discharges to the storm drain system. It is *prohibited* to discharge any chemicals, paints, debris, wastes or wastewater into the gutter, street or storm drain.

## *Outdoor Storage BMPs*

- Install covers and secondary containment areas for all hazardous materials and wastes stored outdoors in accordance with County and/or City standards.
- Keep all temporary waste containers covered, at all times when not in use.
- Sweep outdoor areas instead of using a hose or pressure washer.
- Move all process operations including vehicle/equipment maintenance inside of the building or under a covered and contained area.
- Wash equipment and vehicles in a contained and covered wash bay which is closed-loop or connected to a clarifier sized to local standards and discharged to a sanitary sewer or take them to a commercial car wash.




## *Spills and Clean Up BMPs*

- Keep the work site clean and orderly. Remove debris in a timely fashion. Sweep up the area.
- Clean up spills immediately when they occur, using dry clean up methods such as absorbent materials or sweep followed by proper disposal of materials.
- Always have a spill kit available near chemical loading dock doors and vehicle maintenance and fueling areas.
- Follow your Business Emergency Plan, as filed with the local Fire Department.
- Report all prohibited discharges and non-implementation of BMPs to your local Stormwater Coordinator as listed on the back of this pamphlet.



- Report hazardous materials spills to 951-358-5055 or call after hours to 951-782-2973 or, if an emergency, call the Fire Department's Haz Mat Team at 911.

## *Plastic Manufacturing Facilities BMPs*

AB 258 requires plastic product manufacturers to use BMPs, such as safe storage and clean-up procedures to prevent plastic pellets (nurdles) from entering the waterway. The plastic pellets are released into the environment during transporting, packaging and processing and migrate to waterways through the storm drain system. AB 258 will help protect fish and wildlife from the hazards of plastic pollution.

## *Training BMPs*

As prescribed by your City and County Stormwater Ordinance(s), train employees in spill procedures and prohibit non-stormwater discharges to the storm drain system. Applicable BMP examples can be found at www.cabmphandbooks.com.

## *Permitting*

Stormwater discharges associated with specific categories for industrial facilities are regulated by the State Water Resources Control Board through an Industrial Stormwater General Permit. A copy of this General Permit and application forms are available at: www.waterboards.ca.gov, select stormwater then the industrial quick link.

**To report illegal dumping or for more information on stormwater pollution prevention call: 1-800-506-2555 or e-mail us at: fcnpdes@rcflood.org.**

## Helpful telephone numbers and links:

**Riverside County Stormwater Protection Partners**

| | |
|---|---|
| Flood Control District | (951) 955-1200 |
| County of Riverside | (951) 955-1000 |
| City of Banning | (951) 922-3105 |
| City of Beaumont | (951) 769-8520 |
| City of Calimesa | (909) 795-9801 |
| City of Canyon Lake | (951) 244-2955 |
| Cathedral City | (760) 770-0327 |
| City of Coachella | (760) 398-4978 |
| City of Corona | (951) 736-2447 |
| City of Desert Hot Springs | (760) 329-6411 |
| City of Eastvale | (951) 361-0900 |
| City of Hemet | (951) 765-2300 |
| City of Indian Wells | (760) 346-2489 |
| City of Indio | (760) 391-4000 |
| City of Lake Elsinore | (951) 674-3124 |
| City of La Quinta | (760) 777-7000 |
| City of Menifee | (951) 672-6777 |
| City of Moreno Valley | (951) 413-3000 |
| City of Murrieta | (951) 304-2489 |
| City of Norco | (951) 270-5607 |
| City of Palm Desert | (760) 346-0611 |
| City of Palm Springs | (760) 323-8299 |
| City of Perris | (951) 943-6100 |
| City of Rancho Mirage | (760) 324-4511 |
| City of Riverside | (951) 361-0900 |
| City of San Jacinto | (951) 654-7337 |
| City of Temecula | (951) 694-6444 |
| City of Wildomar | (951) 677-7751 |

**REPORT ILLEGAL STORM DRAIN DISPOSAL**
**1-800-506-2555 or e-mail us at**
**fcnpdes@rcflood.org**

- Riverside County Flood Control and Water Conservation District
  www.rcflood.org

**Online resources include:**

- California Storm Water Quality Association
  www.casqa.org
- State Water Resources Control Board
  www.waterboards.ca.gov
- Power Washers of North America
  www.thepwna.org

# Stormwater Pollution

*What you should know for...*

## Outdoor Cleaning Activities and Professional Mobile Service Providers



## Storm drain pollution prevention information for:

- Car Washing / Mobile Detailers
- Window and Carpet Cleaners
- Power Washers
- Waterproofers / Street Sweepers
- Equipment cleaners or degreasers and all mobile service providers

## Do you know where street flows actually go?

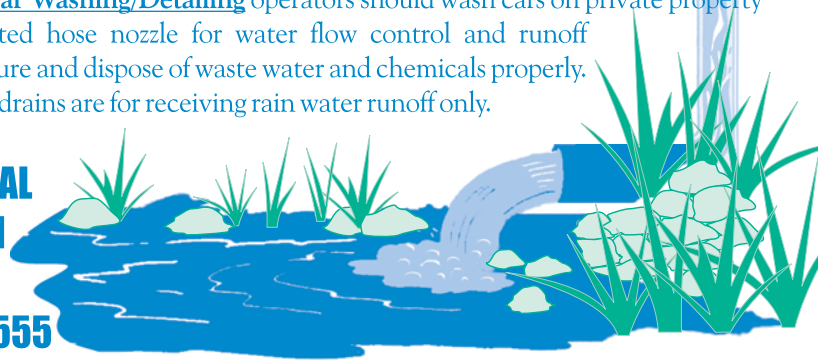
### Storm drains are NOT connected to sanitary sewer systems and treatment plants!




The primary purpose of storm drains is to carry *rain* water away from developed areas to prevent flooding. Pollutants discharged to storm drains are transported directly into rivers, lakes and streams. Soaps, degreasers, automotive fluids, litter and a host of materials are washed off buildings, sidewalks, plazas and parking areas. Vehicles and equipment must be properly managed to prevent the pollution of local waterways.

Unintentional spills by mobile service operators can flow into storm drains and pollute our waterways. **Avoid mishaps.** *Always* have a **Spill Response Kit** on hand to clean up unintentional spills. Only emergency **Mechanical** repairs should be done in City streets, using drip pans for spills. **Plumbing** should be done on private property. Always store chemicals in a leak-proof container and keep covered when not in use. **Window/Power Washing** waste water shouldn't be released into the streets, but should be disposed of in a sanitary sewer, landscaped area or in the soil. Soiled **Carpet Cleaning** wash water should be filtered before being discharged into the sanitary sewer. Dispose of all filter debris properly. **Car Washing/Detailing** operators should wash cars on private property and use a regulated hose nozzle for water flow control and runoff prevention. Capture and dispose of waste water and chemicals properly. Remember, storm drains are for receiving rain water runoff only.

**REPORT ILLEGAL STORM DRAIN DISPOSAL 1-800-506-2555**



# Help Protect Our Waterways!

## Use these guidelines for Outdoor Cleaning Activities and Wash Water Disposal

**Did you know that disposing of pollutants into the street, gutter, storm drain or body of water is *PROHIBITED* by law and can result in stiff penalties?**

## Best Management Practices

Waste wash water from Mechanics, Plumbers, Window/Power Washers, Carpet Cleaners, Car Washing and Mobile Detailing activities may contain significant quantities of motor oil, grease, chemicals, dirt, detergents, brake pad dust, litter and other materials.

Best Management Practices, or BMPs as they are known, are guides to prevent pollutants from entering the storm drains. ***Each of us*** can do our part to keep stormwater clean by using the suggested BMPs below:

## Simple solutions for both light and heavy duty jobs:

**Do...**consider dry cleaning methods first such as a mop, broom, rag or wire brush. Always keep a spill response kit on site.

**Do...**prepare the work area before power cleaning by using sand bags, rubber mats, vacuum booms, containment pads or temporary berms to keep wash water away from the gutters and storm drains.

**Do...**use vacuums or other machines to remove and collect loose debris or litter before applying water.

**Do...**obtain the property owner's permission to dispose of ***small amounts*** of power washing waste water on to landscaped, gravel or unpaved surfaces.

**Do...**check your local sanitary sewer agency's policies on wash water disposal regulations before disposing of wash water into the sewer. (See list on reverse side)

**Do...**be aware that if discharging to landscape areas, soapy wash water may damage landscaping. Residual wash water may remain on paved surfaces to evaporate. Sweep up solid residuals and dispose of properly. Vacuum booms are another option for capturing and collecting wash water.

**Do...**check to see if local ordinances prevent certain activities.

**Do not let...**wash or waste water from sidewalk, plaza or building cleaning go into a street or storm drain.




**Report illegal storm drain disposal**
**Call Toll Free**
**1-800-506-2555**

## Using Cleaning Agents

Try using biodegradable/phosphate-free products. They are easier on the environment, but don't confuse them with being toxic free. Soapy water entering the storm drain system can impact the delicate aquatic environment.



When cleaning surfaces with a ***high-pressure washer*** or ***steam cleaner***, additional precautions should be taken to prevent the discharge of pollutants into the storm drain system. These two methods of surface cleaning can loosen additional material that can contaminate local waterways.

## Think Water Conservation

Minimize water use by using high pressure, low volume nozzles. Be sure to check all hoses for leaks. Water is a precious resource, don't let it flow freely and be sure to shut it off in between uses.

## Screening Wash Water

Conduct thorough dry cleanup before washing exterior surfaces, such as buildings and decks ***with loose paint***, sidewalks or plaza areas. Keep debris from entering the storm drain after cleaning by first passing the wash water through a "20 mesh" or finer screen to catch the solid materials, then dispose of the mesh in a refuse container. Do not let the remaining wash water enter a street, gutter or storm drain.

## Drain Inlet Protection & Collection of Wash Water

- Prior to any washing, block all storm drains with an impervious barrier such as sandbags or berms, or seal the storm drain with plugs or other appropriate materials.
- Create a containment area with berms and traps or take advantage of a low spot to keep wash water contained.
- Wash vehicles and equipment on grassy or gravel areas so that the wash water can seep into the ground.
- Pump or vacuum up all wash water in the contained area.

## Concrete/Coring/Saw Cutting and Drilling Projects

Protect any down-gradient inlets by using dry activity techniques whenever possible. If water is used, minimize the amount of water used during the coring/drilling or saw cutting process. Place a barrier of sandbags and/or absorbent berms to protect the storm drain inlet or watercourse. Use a shovel or wet vacuum to remove the residue from the pavement. Do not wash residue or particulate matter into a storm drain inlet or watercourse.

# Trash Storage Areas SD-32

## Description

Trash storage areas are areas where a trash receptacle (s) are located for use as a repository for solid wastes. Stormwater runoff from areas where trash is stored or disposed of can be polluted. In addition, loose trash and debris can be easily transported by water or wind into nearby storm drain inlets, channels, and/or creeks. Waste handling operations that may be sources of stormwater pollution include dumpsters, litter control, and waste piles.

## Approach

This fact sheet contains details on the specific measures required to prevent or reduce pollutants in stormwater runoff associated with trash storage and handling. Preventative measures including enclosures, containment structures, and impervious pavements to mitigate spills, should be used to reduce the likelihood of contamination.

**Design Objectives**

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

## Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

## Design Considerations

Design requirements for waste handling areas are governed by Building and Fire Codes, and by current local agency ordinances and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code and ordinance requirements. Hazardous waste should be handled in accordance with legal requirements established in Title 22, California Code of Regulation.

Wastes from commercial and industrial sites are typically hauled by either public or commercial carriers that may have design or access requirements for waste storage areas. The design criteria in this fact sheet are recommendations and are not intended to be in conflict with requirements established by the waste hauler. The waste hauler should be contacted prior to the design of your site trash collection areas. Conflicts or issues should be discussed with the local agency.

### *Designing New Installations*

Trash storage areas should be designed to consider the following structural or treatment control BMPs:

- Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on. This might include berming or grading the waste handling area to prevent run-on of stormwater.
- Make sure trash container areas are screened or walled to prevent off-site transport of trash.

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- Use lined bins or dumpsters to reduce leaking of liquid waste.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Pave trash storage areas with an impervious surface to mitigate spills.
- Do not locate storm drains in immediate vicinity of the trash storage area.
- Post signs on all dumpsters informing users that hazardous materials are not to be disposed of therein.

### *Redeveloping Existing Installations*

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

## Additional Information

### *Maintenance Considerations*

The integrity of structural elements that are subject to damage (i.e., screens, covers, and signs) must be maintained by the owner/operator. Maintenance agreements between the local agency and the owner/operator may be required. Some agencies will require maintenance deed restrictions to be recorded of the property title. If required by the local agency, maintenance agreements or deed restrictions must be executed by the owner/operator before improvement plans are approved.

## Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

# Fueling Areas SD-30




Photo Credit: Geoff Brosseau

**Design Objectives**

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- ☑ Collect and Convey

## Description

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the stormwater conveyance system. Spills at vehicle and equipment fueling areas can be a significant source of pollution because fuels contain toxic materials and heavy metals that are not easily removed by stormwater treatment devices.

## Approach

Project plans must be developed for cleaning near fuel dispensers, emergency spill cleanup, containment, and leak prevention.

## Suitable Applications

Appropriate applications include commercial, industrial, and any other areas planned to have fuel dispensing equipment, including retail gasoline outlets, automotive repair shops, and major non-retail dispensing areas.

## Design Considerations

Design requirements for fueling areas are governed by Building and Fire Codes and by current local agency ordinances and zoning requirements. Design requirements described in this fact sheet are meant to enhance and be consistent with these code and ordinance requirements.

### *Designing New Installations*

*Covering*

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Fuel dispensing areas should provide an overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area. The fueling area should drain to the project's treatment control BMP(s) prior to discharging to the stormwater conveyance system. Note - If fueling large equipment or vehicles that would prohibit the use of covers or roofs, the fueling island should be designed to sufficiently accommodate the larger vehicles and equipment and to prevent stormwater run-on and runoff. Grade to direct stormwater to a dead-end sump.

*Surfacing*

Fuel dispensing areas should be paved with Portland cement concrete (or equivalent smooth impervious surface). The use of asphalt concrete should be prohibited. Use asphalt sealant to protect asphalt paved areas surrounding the fueling area. This provision may be made to sites that have pre-existing asphalt surfaces.

The concrete fuel dispensing area should be extended a minimum of 6.5 ft from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 ft, whichever is less.

*Grading/Contouring*

Dispensing areas should have an appropriate slope to prevent ponding, and be separated from the rest of the site by a grade break that prevents run-on of urban runoff. (Slope is required to be 2 to 4% in some jurisdictions' stormwater management and mitigation plans.)

Fueling areas should be graded to drain toward a dead-end sump. Runoff from downspouts/roofs should be directed away from fueling areas. Do not locate storm drains in the immediate vicinity of the fueling area.

### *Redeveloping Existing Installations*

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

## Additional Information

- In the case of an emergency, provide storm drain seals, such as isolation valves, drain plugs, or drain covers, to prevent spills or contaminated stormwater from entering the stormwater conveyance system.

## Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

# Storm Drain Signage SD-13




**Design Objectives**

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

## Description

Waste materials dumped into storm drain inlets can have severe impacts on receiving and ground waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.

## Approach

The stencil or affixed sign contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.

## Suitable Applications

Stencils and signs alert the public to the destination of pollutants discharged to the storm drain. Signs are appropriate in residential, commercial, and industrial areas, as well as any other area where contributions or dumping to storm drains is likely.

## Design Considerations

Storm drain message markers or placards are recommended at all storm drain inlets within the boundary of a development project. The marker should be placed in clear sight facing toward anyone approaching the inlet from either side. All storm drain inlet locations should be identified on the development site map.

### *Designing New Installations*

The following methods should be considered for inclusion in the project design and show on project plans:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language. Examples include “NO DUMPING

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– DRAINS TO OCEAN" and/or other graphical icons to discourage illegal dumping.

- Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.

Note - Some local agencies have approved specific signage and/or storm drain message placards for use. Consult local agency stormwater staff to determine specific requirements for placard types and methods of application.

### *Redeveloping Existing Installations*

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. If the project meets the definition of "redevelopment", then the requirements stated under " designing new installations" above should be included in all project design plans.

## Additional Information

### *Maintenance Considerations*

- Legibility of markers and signs should be maintained. If required by the agency with jurisdiction over the project, the owner/operator or homeowner's association should enter into a maintenance agreement with the agency or record a deed restriction upon the property title to maintain the legibility of placards or signs.

### *Placement*

- Signage on top of curbs tends to weather and fade.

- Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.

## Supplemental Information

### *Examples*

- Most MS4 programs have storm drain signage programs. Some MS4 programs will provide stencils, or arrange for volunteers to stencil storm drains as part of their outreach program.

## Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

# Efficient Irrigation SD-12



**Design Objectives**

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

## Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

## Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

## Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

## Design Considerations

### *Designing New Installations*

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.

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- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
  - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
  - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
  - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
  - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

### *Redeveloping Existing Installations*

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

## Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

# Roof Runoff Controls SD-11



Rain Garden

**Design Objectives**

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

## Description

Various roof runoff controls are available to address stormwater that drains off rooftops. The objective is to reduce the total volume and rate of runoff from individual lots, and retain the pollutants on site that may be picked up from roofing materials and atmospheric deposition. Roof runoff controls consist of directing the roof runoff away from paved areas and mitigating flow to the storm drain system through one of several general approaches: cisterns or rain barrels; dry wells or infiltration trenches; pop-up emitters, and foundation planting. The first three approaches require the roof runoff to be contained in a gutter and downspout system. Foundation planting provides a vegetated strip under the drip line of the roof.

## Approach

Design of individual lots for single-family homes as well as lots for higher density residential and commercial structures should consider site design provisions for containing and infiltrating roof runoff or directing roof runoff to vegetative swales or buffer areas. Retained water can be reused for watering gardens, lawns, and trees. Benefits to the environment include reduced demand for potable water used for irrigation, improved stormwater quality, increased groundwater recharge, decreased runoff volume and peak flows, and decreased flooding potential.

## Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

## Design Considerations

### *Designing New Installations*

*Cisterns or Rain Barrels*

One method of addressing roof runoff is to direct roof downspouts to cisterns or rain barrels. A cistern is an above ground storage vessel with either a manually operated valve or a permanently open outlet. Roof runoff is temporarily stored and then released for irrigation or infiltration between storms. The number of rain

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barrels needed is a function of the rooftop area. Some low impact developers recommend that every house have at least 2 rain barrels, with a minimum storage capacity of 1000 liters. Roof barrels serve several purposes including mitigating the first flush from the roof which has a high volume, amount of contaminants, and thermal load. Several types of rain barrels are commercially available. Consideration must be given to selecting rain barrels that are vector proof and childproof. In addition, some barrels are designed with a bypass valve that filters out grit and other contaminants and routes overflow to a soak-away pit or rain garden.

If the cistern has an operable valve, the valve can be closed to store stormwater for irrigation or infiltration between storms. This system requires continual monitoring by the resident or grounds crews, but provides greater flexibility in water storage and metering. If a cistern is provided with an operable valve and water is stored inside for long periods, the cistern must be covered to prevent mosquitoes from breeding.

A cistern system with a permanently open outlet can also provide for metering stormwater runoff. If the cistern outlet is significantly smaller than the size of the downspout inlet (say ¼ to ½ inch diameter), runoff will build up inside the cistern during storms, and will empty out slowly after peak intensities subside. This is a feasible way to mitigate the peak flow increases caused by rooftop impervious land coverage, especially for the frequent, small storms.

*Dry wells and Infiltration Trenches*

Roof downspouts can be directed to dry wells or infiltration trenches. A dry well is constructed by excavating a hole in the ground and filling it with an open graded aggregate, and allowing the water to fill the dry well and infiltrate after the storm event. An underground connection from the downspout conveys water into the dry well, allowing it to be stored in the voids. To minimize sedimentation from lateral soil movement, the sides and top of the stone storage matrix can be wrapped in a permeable filter fabric, though the bottom may remain open. A perforated observation pipe can be inserted vertically into the dry well to allow for inspection and maintenance.

In practice, dry wells receiving runoff from single roof downspouts have been successful over long periods because they contain very little sediment. They must be sized according to the amount of rooftop runoff received, but are typically 4 to 5 feet square, and 2 to 3 feet deep, with a minimum of 1-foot soil cover over the top (maximum depth of 10 feet).

To protect the foundation, dry wells must be set away from the building at least 10 feet. They must be installed in solids that accommodate infiltration. In poorly drained soils, dry wells have very limited feasibility.

Infiltration trenches function in a similar manner and would be particularly effective for larger roof areas. An infiltration trench is a long, narrow, rock-filled trench with no outlet that receives stormwater runoff. These are described under Treatment Controls.

*Pop-up Drainage Emitter*

Roof downspouts can be directed to an underground pipe that daylights some distance from the building foundation, releasing the roof runoff through a pop-up emitter. Similar to a pop-up irrigation head, the emitter only opens when there is flow from the roof. The emitter remains flush to the ground during dry periods, for ease of lawn or landscape maintenance.

*Foundation Planting*

Landscape planting can be provided around the base to allow increased opportunities for stormwater infiltration and protect the soil from erosion caused by concentrated sheet flow coming off the roof. Foundation plantings can reduce the physical impact of water on the soil and provide a subsurface matrix of roots that encourage infiltration. These plantings must be sturdy enough to tolerate the heavy runoff sheet flows, and periodic soil saturation.

### *Redeveloping Existing Installations*

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

## Supplemental Information

### *Examples*

- City of Ottawa's Water Links Surface –Water Quality Protection Program
- City of Toronto Downspout Disconnection Program
- City of Boston, MA, Rain Barrel Demonstration Program

## Other Resources

Hager, Marty Catherine, Stormwater, "Low-Impact Development", January/February 2003. www.stormh2o.com

Low Impact Urban Design Tools, Low Impact Development Design Center, Beltsville, MD. www.lid-stormwater.net

Start at the Source, Bay Area Stormwater Management Agencies Association, 1999 Edition

# Site Design & Landscape Planning SD-10



**Design Objectives**

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- ☑ Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

## Description

Each project site possesses unique topographic, hydrologic, and vegetative features, some of which are more suitable for development than others. Integrating and incorporating appropriate landscape planning methodologies into the project design is the most effective action that can be done to minimize surface and groundwater contamination from stormwater.

## Approach

Landscape planning should couple consideration of land suitability for urban uses with consideration of community goals and projected growth. Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

## Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

## Design Considerations

Design requirements for site design and landscapes planning should conform to applicable standards and specifications of agencies with jurisdiction and be consistent with applicable General Plan and Local Area Plan policies.

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***Designing New Installations***

Begin the development of a plan for the landscape unit with attention to the following general principles:

- Formulate the plan on the basis of clearly articulated community goals. Carefully identify conflicts and choices between retaining and protecting desired resources and community growth.
- Map and assess land suitability for urban uses. Include the following landscape features in the assessment: wooded land, open unwooded land, steep slopes, erosion-prone soils, foundation suitability, soil suitability for waste disposal, aquifers, aquifer recharge areas, wetlands, floodplains, surface waters, agricultural lands, and various categories of urban land use. When appropriate, the assessment can highlight outstanding local or regional resources that the community determines should be protected (e.g., a scenic area, recreational area, threatened species habitat, farmland, fish run). Mapping and assessment should recognize not only these resources but also additional areas needed for their sustenance.

Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

*Conserve Natural Areas during Landscape Planning*

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Cluster development on least-sensitive portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.
- Promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

*Maximize Natural Water Storage and Infiltration Opportunities Within the Landscape Unit*

- Promote the conservation of forest cover. Building on land that is already deforested affects basin hydrology to a lesser extent than converting forested land. Loss of forest cover reduces interception storage, detention in the organic forest floor layer, and water losses by evapotranspiration, resulting in large peak runoff increases and either their negative effects or the expense of countering them with structural solutions.
- Maintain natural storage reservoirs and drainage corridors, including depressions, areas of permeable soils, swales, and intermittent streams. Develop and implement policies and

regulations to discourage the clearing, filling, and channelization of these features. Utilize them in drainage networks in preference to pipes, culverts, and engineered ditches.

- Evaluating infiltration opportunities by referring to the stormwater management manual for the jurisdiction and pay particular attention to the selection criteria for avoiding groundwater contamination, poor soils, and hydrogeological conditions that cause these facilities to fail. If necessary, locate developments with large amounts of impervious surfaces or a potential to produce relatively contaminated runoff away from groundwater recharge areas.

*Protection of Slopes and Channels during Landscape Design*

- Convey runoff safely from the tops of slopes.
- Avoid disturbing steep or unstable slopes.
- Avoid disturbing natural channels.
- Stabilize disturbed slopes as quickly as possible.
- Vegetate slopes with native or drought tolerant vegetation.
- Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
- Stabilize temporary and permanent channel crossings as quickly as possible, and ensure that increases in run-off velocity and frequency caused by the project do not erode the channel.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.
- Line on-site conveyance channels where appropriate, to reduce erosion caused by increased flow velocity due to increases in tributary impervious area. The first choice for linings should be grass or some other vegetative surface, since these materials not only reduce runoff velocities, but also provide water quality benefits from filtration and infiltration. If velocities in the channel are high enough to erode grass or other vegetative linings, riprap, concrete, soil cement, or geo-grid stabilization are other alternatives.
- Consider other design principles that are comparable and equally effective.

### *Redeveloping Existing Installations*

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define “redevelopment” in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of “ redevelopment” must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under “designing new installations” above should be followed.

Redevelopment may present significant opportunity to add features which had not previously been implemented. Examples include incorporation of depressions, areas of permeable soils, and swales in newly redeveloped areas. While some site constraints may exist due to the status of already existing infrastructure, opportunities should not be missed to maximize infiltration, slow runoff, reduce impervious areas, disconnect directly connected impervious areas.

### Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Stormwater Management Manual for Western Washington, Washington State Department of Ecology, August 2001.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

# Drainage System Maintenance SC-44



**Objectives**

- Cover
- Contain
- Educate
- Reduce/Minimize

## Description

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff and stormwater that may contain certain pollutants. The protocols in this fact sheet are intended to reduce pollutants reaching receiving waters through proper conveyance system operation and maintenance.

**Targeted Constituents**

| | |
|---|---|
| Sediment | ✓ |
| Nutrients | |
| Trash | ✓ |
| Metals | |
| Bacteria | ✓ |
| Oil and Grease | |
| Organics | |

## Approach

### *Pollution Prevention*

Maintain catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.

### *Suggested Protocols*

*Catch Basins/Inlet Structures*

- Staff should regularly inspect facilities to ensure compliance with the following:
  - Immediate repair of any deterioration threatening structural integrity.
  - Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.
  - Stenciling of catch basins and inlets (see SC34 Waste Handling and Disposal).

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- Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove sediments and debris accumulated during the summer.
- Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Clean and repair as needed.
- Keep accurate logs of the number of catch basins cleaned.
- Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed. Do not dewater near a storm drain or stream.

*Storm Drain Conveyance System*

- Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Collect and pump flushed effluent to the sanitary sewer for treatment whenever possible.

*Pump Stations*

- Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- Do not allow discharge to reach the storm drain system when cleaning a storm drain pump station or other facility.
- Conduct routine maintenance at each pump station.
- Inspect, clean, and repair as necessary all outlet structures prior to the wet season.

*Open Channel*

- Modify storm channel characteristics to improve channel hydraulics, increase pollutant removals, and enhance channel/creek aesthetic and habitat value.
- Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural (emphasis added) state of any river, stream, or lake in California, must enter into a Steam or Lake Alteration Agreement with the Department of Fish and Game. The developer-applicant should also contact local governments (city, county, special districts), other state agencies (SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Federal Corps of Engineers and USFWS.

*Illicit Connections and Discharges*

- Look for evidence of illegal discharges or illicit connections during routine maintenance of conveyance system and drainage structures:
  - Is there evidence of spills such as paints, discoloring, etc?

- Are there any odors associated with the drainage system?
- Record locations of apparent illegal discharges/illicit connections?
- Track flows back to potential dischargers and conduct aboveground inspections. This can be done through visual inspection of upgradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
- Eliminate the discharge once the origin of flow is established.

- Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

*Illegal Dumping*

- Inspect and clean up hot spots and other storm drainage areas regularly where illegal dumping and disposal occurs.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - Illegal dumping hot spots
  - Types and quantities (in some cases) of wastes
  - Patterns in time of occurrence (time of day/night, month, or year)
  - Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
  - Responsible parties
- Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

### *Training*

- Train crews in proper maintenance activities, including record keeping and disposal.
- Allow only properly trained individuals to handle hazardous materials/wastes.
- Have staff involved in detection and removal of illicit connections trained in the following:
  - OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).

- OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and Federal OSHA 29 CFR 1910.146).

- Procedural training (field screening, sampling, smoke/dye testing, TV inspection).

***Spill Response and Prevention***

- Investigate all reports of spills, leaks, and/or illegal dumping promptly.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) or dig up, remove, and properly dispose of contaminated soil.
- Refer to fact sheet SC-11 Spill Prevention, Control, and Cleanup.

***Other Considerations (Limitations and Regulations)***

- Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.
- Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, liquid/sediment disposal, and prohibition against disposal of flushed effluent to sanitary sewer in some areas.
- Regulations may include adoption of substantial penalties for illegal dumping and disposal.
- Local municipal codes may include sections prohibiting discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the storm drain system.

## Requirements

***Costs***

- An aggressive catch basin cleaning program could require a significant capital and O&M budget.
- The elimination of illegal dumping is dependent on the availability, convenience, and cost of alternative means of disposal. The primary cost is for staff time. Cost depends on how aggressively a program is implemented. Other cost considerations for an illegal dumping program include:

  - Purchase and installation of signs.

  - Rental of vehicle(s) to haul illegally-disposed items and material to landfills.

  - Rental of heavy equipment to remove larger items (e.g., car bodies) from channels.

  - Purchase of landfill space to dispose of illegally-dumped items and material.

- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary.

***Maintenance***

- Two-person teams may be required to clean catch basins with vactor trucks.
- Teams of at least two people plus administrative personnel are required to identify illicit discharges, depending on the complexity of the storm sewer system.
- Arrangements must be made for proper disposal of collected wastes.
- Technical staff are required to detect and investigate illegal dumping violations.

## Supplemental Information

***Further Detail of the BMP***

*Storm Drain Flushing*

Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in storm drainage systems. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as an open channel, another point where flushing will be initiated, or the sanitary sewer and the treatment facilities, thus preventing resuspension and overflow of a portion of the solids during storm events. Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediments. Deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, thereby releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce impacts of stormwater pollution, a second inflatable device placed well downstream may be used to recollect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to recollect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75% for organics and 55-65% for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used or that fire hydrant line flushing coincide with storm sewer flushing.

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

Ferguson, B.K. 1991. Urban Stream Reclamation, p. 324-322, Journal of Soil and Water Conservation.

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net

United States Environmental Protection Agency (USEPA). 2002. Pollution Prevention/Good Housekeeping for Municipal Operations Storm Drain System Cleaning. On line:
http://www.epa.gov/npdes/menuofbmps/poll_16.htm

# Parking/Storage Area Maintenance SC-43



## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

| | |
|---|---|
| Sediment | ✓ |
| Nutrients | |
| Trash | ✓ |
| Metals | ✓ |
| Bacteria | |
| Oil and Grease | ✓ |
| Organics | ✓ |

## Description

Parking lots and storage areas can contribute a number of substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals that can enter receiving waters through stormwater runoff or non-stormwater discharges. The protocols in this fact sheet are intended to prevent or reduce the discharge of pollutants from parking/storage areas and include using good housekeeping practices, following appropriate cleaning BMPs, and training employees.

## Approach

The goal of this program is to ensure stormwater pollution prevention practices are considered when conducting activities on or around parking areas and storage areas to reduce potential for pollutant discharge to receiving waters. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

### *Pollution Prevention*

- Encourage alternative designs and maintenance strategies for impervious parking lots. (See New Development and Redevelopment BMP Handbook)
- Keep accurate maintenance logs to evaluate BMP implementation.

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# SC-43 Parking/Storage Area Maintenance

***Suggested Protocols***

*General*

- Keep the parking and storage areas clean and orderly. Remove debris in a timely fashion.
- Allow sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices.
- Utilize sand filters or oleophilic collectors for oily waste in low quantities.
- Arrange rooftop drains to prevent drainage directly onto paved surfaces.
- Design lot to include semi-permeable hardscape.
- Discharge soapy water remaining in mop or wash buckets to the sanitary sewer through a sink, toilet, clean-out, or wash area with drain.

*Controlling Litter*

- Post "No Littering" signs and enforce anti-litter laws.
- Provide an adequate number of litter receptacles.
- Clean out and cover litter receptacles frequently to prevent spillage.
- Provide trash receptacles in parking lots to discourage litter.
- Routinely sweep, shovel, and dispose of litter in the trash.

*Surface Cleaning*

- Use dry cleaning methods (e.g., sweeping, vacuuming) to prevent the discharge of pollutants into the stormwater conveyance system if possible.
- Establish frequency of public parking lot sweeping based on usage and field observations of waste accumulation.
- Sweep all parking lots at least once before the onset of the wet season.
- Follow the procedures below if water is used to clean surfaces:
  - Block the storm drain or contain runoff.
  - Collect and pump wash water to the sanitary sewer or discharge to a pervious surface. Do not allow wash water to enter storm drains.
  - Dispose of parking lot sweeping debris and dirt at a landfill.
- Follow the procedures below when cleaning heavy oily deposits:
  - Clean oily spots with absorbent materials.
  - Use a screen or filter fabric over inlet, then wash surfaces.

- Do not allow discharges to the storm drain.
- Vacuum/pump discharges to a tank or discharge to sanitary sewer.
- Appropriately dispose of spilled materials and absorbents.

*Surface Repair*

- Preheat, transfer or load hot bituminous material away from storm drain inlets.
- Apply concrete, asphalt, and seal coat during dry weather to prevent contamination from contacting stormwater runoff.
- Cover and seal nearby storm drain inlets where applicable (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal.
- Use only as much water as necessary for dust control, to avoid runoff.
- Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.

*Inspection*

- Have designated personnel conduct inspections of parking facilities and stormwater conveyance systems associated with parking facilities on a regular basis.
- Inspect cleaning equipment/sweepers for leaks on a regular basis.

### *Training*

- Provide regular training to field employees and/or contractors regarding cleaning of paved areas and proper operation of equipment.
- Train employees and contractors in proper techniques for spill containment and cleanup.

### *Spill Response and Prevention*

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials where it will be readily accessible or at a central location.
- Clean up fluid spills immediately with absorbent rags or material.
- Dispose of spilled material and absorbents properly.

### *Other Considerations*

Limitations related to sweeping activities at large parking facilities may include high equipment costs, the need for sweeper operator training, and the inability of current sweeper technology to remove oil and grease.

# SC-43 Parking/Storage Area Maintenance

## Requirements

### *Costs*

Cleaning/sweeping costs can be quite large. Construction and maintenance of stormwater structural controls can be quite expensive as well.

### *Maintenance*

- Sweep parking lot regularly to minimize cleaning with water.
- Clean out oil/water/sand separators regularly, especially after heavy storms.
- Clean parking facilities regularly to prevent accumulated wastes and pollutants from being discharged into conveyance systems during rainy conditions.

## Supplemental Information

### *Further Detail of the BMP*

*Surface Repair*

Apply concrete, asphalt, and seal coat during dry weather to prevent contamination from contacting stormwater runoff. Where applicable, cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal. Only use only as much water as is necessary for dust control to avoid runoff.

## References and Resources


California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org/

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

# Building Repair and Construction SC-42




## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Recycle

## Targeted Constituents

| | |
|---|---|
| Sediment | ✓ |
| Nutrients | |
| Trash | ✓ |
| Metals | ✓ |
| Bacteria | |
| Oil and Grease | ✓ |
| Organics | ✓ |

## Description

Modifications are common particularly at large industrial sites. The activity may vary from minor and normal building repair to major remodeling, or the construction of new facilities. These activities can generate pollutants including solvents, paints, paint and varnish removers, finishing residues, spent thinners, soap cleaners, kerosene, asphalt and concrete materials, adhesive residues, and old asbestos installation. Protocols in this fact sheet are intended to prevent or reduce the discharge of pollutants to stormwater from building repair, remodeling, and construction by using soil erosion controls, enclosing or covering building material storage areas, using good housekeeping practices, using safer alternative products, and training employees.

## Approach

### *Pollution Prevention*

- Recycle residual paints, solvents, lumber, and other materials to the maximum extent practical.
- Buy recycled products to the maximum extent practical.
- Inform on-site contractors of company policy on these matters and include appropriate provisions in their contract to ensure certain proper housekeeping and disposal practices are implemented.

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- Make sure that nearby storm drains are well marked to minimize the chance of inadvertent disposal of residual paints and other liquids.

***Suggested Protocols***

*Repair & Remodeling*

- Follow BMPs identified in Construction BMP Handbook.
- Maintain good housekeeping practices while work is underway.
- Keep the work site clean and orderly. Remove debris in a timely fashion. Sweep the area.
- Cover materials of particular concern that must be left outside, particularly during the rainy season.
- Do not dump waste liquids down the storm drain.
- Dispose of wash water, sweepings, and sediments properly.
- Store materials properly that are normally used in repair and remodeling such as paints and solvents.
- Sweep out the gutter or wash the gutter and trap the particles at the outlet of the downspout if when repairing roofs, small particles have accumulated in the gutter. A sock or geofabric placed over the outlet may effectively trap the materials. If the downspout is tight lined, place a temporary plug at the first convenient point in the storm drain and pump out the water with a vactor truck, and clean the catch basin sump where you placed the plug.
- Properly store and dispose waste materials generated from construction activities. See Construction BMP Handbook.
- Clean the storm drain system in the immediate vicinity of the construction activity after it is completed.

*Painting*

- Enclose painting operations consistent with local air quality regulations and OSHA.
- Local air pollution regulations may, in many areas of the state, specify painting procedures which if properly carried out are usually sufficient to protect water quality.
- Develop paint handling procedures for proper use, storage, and disposal of paints.
- Transport paint and materials to and from job sites in containers with secure lids and tied down to the transport vehicle.
- Test and inspect spray equipment prior to starting to paint. Tighten all hoses and connections and do not overfill paint containers.
- Mix paint indoors before using so that any spill will not be exposed to rain. Do so even during dry weather because cleanup of a spill will never be 100% effective.
- Transfer and load paint and hot thermoplastic away from storm drain inlets.

- Do not transfer or load paint near storm drain inlets.
- Plug nearby storm drain inlets prior to starting painting and remove plugs when job is complete when there is significant risk of a spill reaching storm drains.
- Cover nearby storm drain inlets prior to starting work if sand blasting is used to remove paint.
- Use a ground cloth to collect the chips if painting requires scraping or sand blasting of the existing surface. Dispose the residue properly.
- Cover or enclose painting operations properly to avoid drift.
- Clean the application equipment in a sink that is connected to the sanitary sewer if using water based paints.
- Capture all cleanup-water and dispose of properly.
- Dispose of paints containing lead or tributyl tin and considered a hazardous waste properly.
- Store leftover paints if they are to be kept for the next job properly, or dispose properly.
- Recycle paint when possible. Dispose of paint at an appropriate household hazardous waste facility.

### *Training*

Proper education of off-site contractors is often overlooked. The conscientious efforts of well trained employees can be lost by unknowing off-site contractors, so make sure they are well informed about what they are expected to do.

### *Spill Response and Prevention*

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Clean up spills immediately.
- Excavate and remove the contaminated (stained) soil if a spill occurs on dirt.

### *Limitations*

- This BMP is for minor construction only. The State's General Construction Activity Stormwater Permit has more requirements for larger projects. The companion "Construction Best Management Practice Handbook" contains specific guidance and best management practices for larger-scale projects.
- Hazardous waste that cannot be reused or recycled must be disposed of by a licensed hazardous waste hauler.
- Be certain that actions to help stormwater quality are consistent with Cal- and Fed-OSHA and air quality regulations.

# SC-42 Building Repair and Construction

## Requirements

***Costs***

These BMPs are generally low to modest in cost.

***Maintenance***

N/A

## Supplemental Information

***Further Detail of the BMP***

*Soil/Erosion Control*

If the work involves exposing large areas of soil, employ the appropriate soil erosion and control techniques. See the Construction Best Management Practice Handbook. If old buildings are being torn down and not replaced in the near future, stabilize the site using measures described in SC-40 Contaminated or Erodible Areas.

If a building is to be placed over an open area with a storm drainage system, make sure the storm inlets within the building are covered or removed, or the storm line is connected to the sanitary sewer. If because of the remodeling a new drainage system is to be installed or the existing system is to be modified, consider installing catch basins as they serve as effective "in-line" treatment devices. See Treatment Control Fact Sheet TC-20 Wet Pond/Basin in Section 5 of the New Development and Redevelopment Handbook regarding design criteria. Include in the catch basin a "turn-down" elbow or similar device to trap floatables.

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

# Building & Grounds Maintenance SC-41




## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

| | |
|---|---|
| Sediment | ✓ |
| Nutrients | ✓ |
| Trash | |
| Metals | ✓ |
| Bacteria | ✓ |
| Oil and Grease | |
| Organics | |

## Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, abnormal pH, and oils and greases. Utilizing the protocols in this fact sheet will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

### *Pollution Prevention*

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.

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- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.

***Suggested Protocols***

*Pressure Washing of Buildings, Rooftops, and Other Large Objects*

- In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used, and the surrounding area is paved, wash runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement.

*Landscaping Activities*

- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils.

*Building Repair, Remodeling, and Construction*

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paintbrushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. This is particularly necessary on rainy days. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.

- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. If directed off-site, you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

*Mowing, Trimming, and Planting*

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures when soils are exposed.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water: do not put it in the storm drain; pour over landscaped areas.
- Use hand weeding where practical.

*Fertilizer and Pesticide Management*

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Use less toxic pesticides that will do the job when applicable. Avoid use of copper-based pesticides if possible.
- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g., spray drift) of pesticides, including consideration of alternative application techniques.
- Apply pesticides only when wind speeds are low.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Dispose of empty pesticide containers according to the instructions on the container label.

- Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

*Inspection*

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering and repair leaks in the irrigation system as soon as they are observed.

***Training***

- Educate and train employees on pesticide use and in pesticide application techniques to prevent pollution.
- Train employees and contractors in proper techniques for spill containment and cleanup.
- Be sure the frequency of training takes into account the complexity of the operations and the nature of the staff.

***Spill Response and Prevention***

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials, such as brooms, dustpans, and vacuum sweepers (if desired) near the storage area where it will be readily accessible.
- Have employees trained in spill containment and cleanup present during the loading/unloading of dangerous wastes, liquid chemicals, or other materials.
- Familiarize employees with the Spill Prevention Control and Countermeasure Plan.
- Clean up spills immediately.

***Other Considerations***

Alternative pest/weed controls may not be available, suitable, or effective in many cases.

## Requirements

***Costs***

- Cost will vary depending on the type and size of facility.
- Overall costs should be low in comparison to other BMPs.

***Maintenance***

Sweep paved areas regularly to collect loose particles. Wipe up spills with rags and other absorbent material immediately, do not hose down the area to a storm drain.

## Supplemental Information

***Further Detail of the BMP***

*Fire Sprinkler Line Flushing*

Building fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water, though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping, but it is subject to rusting and results in lower quality water. Initially, the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, poly-phosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time (typically a year) and between flushes may accumulate iron, manganese, lead, copper, nickel, and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Mobile Cleaners Pilot Program: Final Report. 1997. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org/

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org/

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

# Waste Handling & Disposal SC-34



## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Description

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, reuse, and recycling; and preventing run-on and runoff.

## Targeted Constituents

| | |
|---|---|
| Sediment | |
| Nutrients | |
| Trash | |
| Metals | ✓ |
| Bacteria | ✓ |
| Oil and Grease | ✓ |
| Organics | ✓ |

## Approach

### *Pollution Prevention*

- Accomplish reduction in the amount of waste generated using the following source controls:
  - Production planning and sequencing
  - Process or equipment modification
  - Raw material substitution or elimination
  - Loss prevention and housekeeping
  - Waste segregation and separation
  - Close loop recycling
- Establish a material tracking system to increase awareness about material usage. This may reduce spills and minimize contamination, thus reducing the amount of waste produced.
- Recycle materials whenever possible.

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***Suggested Protocols***

*General*

- Cover storage containers with leak proof lids or some other means. If waste is not in containers, cover all waste piles (plastic tarps are acceptable coverage) and prevent stormwater run-on and runoff with a berm. The waste containers or piles must be covered except when in use.
- Use drip pans or absorbent materials whenever grease containers are emptied by vacuum trucks or other means. Grease cannot be left on the ground. Collected grease must be properly disposed of as garbage.
- Check storage containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Sweep and clean the storage area regularly. If it is paved, do not hose down the area to a storm drain.
- Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer if allowed by the local sewer authority. Do not discharge wash water to the street or storm drain.
- Transfer waste from damaged containers into safe containers.
- Take special care when loading or unloading wastes to minimize losses. Loading systems can be used to minimize spills and fugitive emission losses such as dust or mist. Vacuum transfer systems can minimize waste loss.

*Controlling Litter*

- Post "No Littering" signs and enforce anti-litter laws.
- Provide a sufficient number of litter receptacles for the facility.
- Clean out and cover litter receptacles frequently to prevent spillage.

*Waste Collection*

- Keep waste collection areas clean.
- Inspect solid waste containers for structural damage regularly. Repair or replace damaged containers as necessary.
- Secure solid waste containers; containers must be closed tightly when not in use.
- Do not fill waste containers with washout water or any other liquid.
- Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc., may not be disposed of in solid waste containers (see chemical/ hazardous waste collection section below).

- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal.

*Good Housekeeping*

- Use all of the product before disposing of the container.
- Keep the waste management area clean at all times by sweeping and cleaning up spills immediately.
- Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.

*Chemical/Hazardous Wastes*

- Select designated hazardous waste collection areas on-site.
- Store hazardous materials and wastes in covered containers and protect them from vandalism.
- Place hazardous waste containers in secondary containment.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.
- Stencil or demarcate storm drains on the facility's property with prohibitive message regarding waste disposal.

*Run-on/Runoff Prevention*

- Prevent stormwater run-on from entering the waste management area by enclosing the area or building a berm around the area.
- Prevent waste materials from directly contacting rain.
- Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropyleneor hypalon.
- Cover the area with a permanent roof if feasible.
- Cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.
- Move the activity indoor after ensuring all safety concerns such as fire hazard and ventilation are addressed.

*Inspection*

- Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- Check waste management areas for leaking containers or spills.

- Repair leaking equipment including valves, lines, seals, or pumps promptly.

***Training***

- Train staff in pollution prevention measures and proper disposal methods.
- Train employees and contractors in proper spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur.
- Train employees and subcontractors in proper hazardous waste management.

***Spill Response and Prevention***

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Have an emergency plan, equipment and trained personnel ready at all times to deal immediately with major spills
- Collect all spilled liquids and properly dispose of them.
- Store and maintain appropriate spill cleanup materials in a location known to all near the designated wash area.
- Ensure that vehicles transporting waste have spill prevention equipment that can prevent spills during transport. Spill prevention equipment includes:
  - Vehicles equipped with baffles for liquid waste
  - Trucks with sealed gates and spill guards for solid waste

***Other Considerations (Limitations and Regulations)***

Hazardous waste cannot be reused or recycled; it must be disposed of by a licensed hazardous waste hauler.

## Requirements

***Costs***

Capital and O&M costs for these programs will vary substantially depending on the size of the facility and the types of waste handled. Costs should be low if there is an inventory program in place.

***Maintenance***

- None except for maintaining equipment for material tracking program.

## Supplemental Information

***Further Detail of the BMP***

*Land Treatment System*

Minimize runoff of polluted stormwater from land application by:

- Choosing a site where slopes are under 6%, the soil is permeable, there is a low water table, it is located away from wetlands or marshes, and there is a closed drainage system

- Avoiding application of waste to the site when it is raining or when the ground is saturated with water
- Growing vegetation on land disposal areas to stabilize soils and reduce the volume of surface water runoff from the site
- Maintaining adequate barriers between the land application site and the receiving waters (planted strips are particularly good)
- Using erosion control techniques such as mulching and matting, filter fences, straw bales, diversion terracing, and sediment basins
- Performing routine maintenance to ensure the erosion control or site stabilization measures are working

***Examples***

The port of Long Beach has a state-of-the-art database for identifying potential pollutant sources, documenting facility management practices, and tracking pollutants.

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

Solid Waste Container Best Management Practices – Fact Sheet On-Line Resources – Environmental Health and Safety. Harvard University. 2002.

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA). http://www.basmaa.org

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net/

# Spill Prevention, Control & Cleanup SC-11



Photo Credit: Geoff Brosseau

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Description

Many activities that occur at an industrial or commercial site have the potential to cause accidental or illegal spills. Preparation for accidental or illegal spills, with proper training and reporting systems implemented, can minimize the discharge of pollutants to the environment.

Spills and leaks are one of the largest contributors of stormwater pollutants. Spill prevention and control plans are applicable to any site at which hazardous materials are stored or used. An effective plan should have spill prevention and response procedures that identify potential spill areas, specify material handling procedures, describe spill response procedures, and provide spill clean-up equipment. The plan should take steps to identify and characterize potential spills, eliminate and reduce spill potential, respond to spills when they occur in an effort to prevent pollutants from entering the stormwater drainage system, and train personnel to prevent and control future spills.

## Targeted Constituents

| | |
|---|---|
| Sediment | |
| Nutrients | |
| Trash | |
| Metals | ☑ |
| Bacteria | |
| Oil and Grease | ☑ |
| Organics | ☑ |

## Approach

### *Pollution Prevention*

- Develop procedures to prevent/mitigate spills to storm drain systems. Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.

- Develop a Spill Prevention Control and Countermeasure (SPCC) Plan. The plan should include:

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- Description of the facility, owner and address, activities and chemicals present
- Facility map
- Notification and evacuation procedures
- Cleanup instructions
- Identification of responsible departments
- Identify key spill response personnel

- Recycle, reclaim, or reuse materials whenever possible. This will reduce the amount of process materials that are brought into the facility.

***Suggested Protocols (including equipment needs)***

*Spill Prevention*

- Develop procedures to prevent/mitigate spills to storm drain systems. Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.

- If consistent illegal dumping is observed at the facility:
  - Post "No Dumping" signs with a phone number for reporting illegal dumping and disposal. Signs should also indicate fines and penalties applicable for illegal dumping.
  - Landscaping and beautification efforts may also discourage illegal dumping.
  - Bright lighting and/or entrance barriers may also be needed to discourage illegal dumping.

- Store and contain liquid materials in such a manner that if the tank is ruptured, the contents will not discharge, flow, or be washed into the storm drainage system, surface waters, or groundwater.

- If the liquid is oil, gas, or other material that separates from and floats on water, install a spill control device (such as a tee section) in the catch basins that collects runoff from the storage tank area.

- Routine maintenance:
  - Place drip pans or absorbent materials beneath all mounted taps, and at all potential drip and spill locations during filling and unloading of tanks. Any collected liquids or soiled absorbent materials must be reused/recycled or properly disposed.
  - Store and maintain appropriate spill cleanup materials in a location known to all near the tank storage area; and ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - Sweep and clean the storage area monthly if it is paved, *do not hose down the area to a storm drain.*

  - Check tanks (and any containment sumps) daily for leaks and spills. Replace tanks that are leaking, corroded, or otherwise deteriorating with tanks in good condition. Collect all spilled liquids and properly dispose of them.

- Label all containers according to their contents (e.g., solvent, gasoline).
- Label hazardous substances regarding the potential hazard (corrosive, radioactive, flammable, explosive, poisonous).
- Prominently display required labels on transported hazardous and toxic materials (per US DOT regulations).
- Identify key spill response personnel.

*Spill Control and Cleanup Activities*

- Follow the Spill Prevention Control and Countermeasure Plan.
- Clean up leaks and spills immediately.
- Place a stockpile of spill cleanup materials where it will be readily accessible (e.g., near storage and maintenance areas).
- On paved surfaces, clean up spills with as little water as possible. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste. Physical methods for the cleanup of dry chemicals include the use of brooms, shovels, sweepers, or plows.
- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Chemical cleanups of material can be achieved with the use of adsorbents, gels, and foams. Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.

*Reporting*

- Report spills that pose an immediate threat to human health or the environment to the Regional Water Quality Control Board.
- Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hour).
- Report spills to local agencies, such as the fire department; they can assist in cleanup.
- Establish a system for tracking incidents. The system should be designed to identify the following:

  - Types and quantities (in some cases) of wastes

  - Patterns in time of occurrence (time of day/night, month, or year)

- Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)

- Responsible parties

***Training***

- Educate employees about spill prevention and cleanup.

- Well-trained employees can reduce human errors that lead to accidental releases or spills:

  - The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur.

  - Employees should be familiar with the Spill Prevention Control and Countermeasure Plan.

- Employees should be educated about aboveground storage tank requirements. Employees responsible for aboveground storage tanks and liquid transfers should be thoroughly familiar with the Spill Prevention Control and Countermeasure Plan and the plan should be readily available.

- Train employees to recognize and report illegal dumping incidents.

***Other Considerations (Limitations and Regulations)***

- A Spill Prevention Control and Countermeasure Plan (SPCC) is required for facilities that are subject to the oil pollution regulations specified in Part 112 of Title 40 of the Code of Federal Regulations or if they have a storage capacity of 10,000 gallons or more of petroleum. (Health and Safety Code 6.67)

- State regulations also exist for storage of hazardous materials (Health & Safety Code Chapter 6.95), including the preparation of area and business plans for emergency response to the releases or threatened releases.

- Consider requiring smaller secondary containment areas (less than 200 sq. ft.) to be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.

## Requirements

***Costs (including capital and operation & maintenance)***

- Will vary depending on the size of the facility and the necessary controls.

- Prevention of leaks and spills is inexpensive. Treatment and/or disposal of contaminated soil or water can be quite expensive.

***Maintenance (including administrative and staffing)***

- This BMP has no major administrative or staffing requirements. However, extra time is needed to properly handle and dispose of spills, which results in increased labor costs.

## Supplemental Information

### *Further Detail of the BMP*

*Reporting*

Record keeping and internal reporting represent good operating practices because they can increase the efficiency of the facility and the effectiveness of BMPs. A good record keeping system helps the facility minimize incident recurrence, correctly respond with appropriate cleanup activities, and comply with legal requirements. A record keeping and reporting system should be set up for documenting spills, leaks, and other discharges, including discharges of hazardous substances in reportable quantities. Incident records describe the quality and quantity of non-stormwater discharges to the storm sewer. These records should contain the following information:

- Date and time of the incident
- Weather conditions
- Duration of the spill/leak/discharge
- Cause of the spill/leak/discharge
- Response procedures implemented
- Persons notified
- Environmental problems associated with the spill/leak/discharge

Separate record keeping systems should be established to document housekeeping and preventive maintenance inspections, and training activities. All housekeeping and preventive maintenance inspections should be documented. Inspection documentation should contain the following information:

- The date and time the inspection was performed
- Name of the inspector
- Items inspected
- Problems noted
- Corrective action required
- Date corrective action was taken

Other means to document and record inspection results are field notes, timed and dated photographs, videotapes, and drawings and maps.

*Aboveground Tank Leak and Spill Control*

Accidental releases of materials from aboveground liquid storage tanks present the potential for contaminating stormwater with many different pollutants. Materials spilled, leaked, or lost from

tanks may accumulate in soils or on impervious surfaces and be carried away by stormwater runoff.

The most common causes of unintentional releases are:

- Installation problems
- Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves)
- External corrosion and structural failure
- Spills and overfills due to operator error
- Leaks during pumping of liquids or gases from truck or rail car to a storage tank or vice versa

Storage of reactive, ignitable, or flammable liquids should comply with the Uniform Fire Code and the National Electric Code. Practices listed below should be employed to enhance the code requirements:

- Tanks should be placed in a designated area.
- Tanks located in areas where firearms are discharged should be encapsulated in concrete or the equivalent.
- Designated areas should be impervious and paved with Portland cement concrete, free of cracks and gaps, in order to contain leaks and spills.
- Liquid materials should be stored in UL approved double walled tanks or surrounded by a curb or dike to provide the volume to contain 10 percent of the volume of all of the containers or 110 percent of the volume of the largest container, whichever is greater. The area inside the curb should slope to a drain.
- For used oil or dangerous waste, a dead-end sump should be installed in the drain.
- All other liquids should be drained to the sanitary sewer if available. The drain must have a positive control such as a lock, valve, or plug to prevent release of contaminated liquids.
- Accumulated stormwater in petroleum storage areas should be passed through an oil/water separator.

Maintenance is critical to preventing leaks and spills. Conduct routine inspections and:

- Check for external corrosion and structural failure.
- Check for spills and overfills due to operator error.
- Check for failure of piping system (pipes, pumps, flanger, coupling, hoses, and valves).
- Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa.

- Visually inspect new tank or container installation for loose fittings, poor welding, and improper or poorly fitted gaskets.
- Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- Frequently relocate accumulated stormwater during the wet season.
- Periodically conduct integrity testing by a qualified professional.

*Vehicle Leak and Spill Control*

Major spills on roadways and other public areas are generally handled by highly trained Hazmat teams from local fire departments or environmental health departments. The measures listed below pertain to leaks and smaller spills at vehicle maintenance shops.

In addition to implementing the spill prevention, control, and clean up practices above, use the following measures related to specific activities:

*Vehicle and Equipment Maintenance*

- Perform all vehicle fluid removal or changing inside or under cover to prevent the run-on of stormwater and the runoff of spills.
- Regularly inspect vehicles and equipment for leaks, and repair immediately.
- Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Immediately drain all fluids from wrecked vehicles.
- Store wrecked vehicles or damaged equipment under cover.
- Place drip pans or absorbent materials under heavy equipment when not in use.
- Use adsorbent materials on small spills rather than hosing down the spill.
- Remove the adsorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- Oil filters disposed of in trashcans or dumpsters can leak oil and contaminate stormwater. Place the oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask your oil supplier or recycler about recycling oil filters.

- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

*Vehicle and Equipment Fueling*

- Design the fueling area to prevent the run-on of stormwater and the runoff of spills:
  - Cover fueling area if possible.
  - Use a perimeter drain or slope pavement inward with drainage to a sump.
  - Pave fueling area with concrete rather than asphalt.
- If dead-end sump is not used to collect spills, install an oil/water separator.
- Install vapor recovery nozzles to help control drips as well as air pollution.
- Discourage "topping-off' of fuel tanks.
- Use secondary containment when transferring fuel from the tank truck to the fuel tank.
- Use adsorbent materials on small spills and general cleaning rather than hosing down the area. Remove the adsorbent materials promptly.
- Carry out all Federal and State requirements regarding underground storage tanks, or install above ground tanks.
- Do not use mobile fueling of mobile industrial equipment around the facility; rather, transport the equipment to designated fueling areas.
- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Train employees in proper fueling and cleanup procedures.

*Industrial Spill Prevention Response*

For the purposes of developing a spill prevention and response program to meet the stormwater regulations, facility managers should use information provided in this fact sheet and the spill prevention/response portions of the fact sheets in this handbook, for specific activities. The program should:

- Integrate with existing emergency response/hazardous materials programs (e.g., Fire Department)
- Develop procedures to prevent/mitigate spills to storm drain systems
- Identify responsible departments
- Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures
- Address spills at municipal facilities, as well as public areas

- Provide training concerning spill prevention, response and cleanup to all appropriate personnel

## References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Stormwater Managers Resource Center http://www.stormwatercenter.net/

# Landscape Maintenance



Photo Credit: Geoff Brosseau

## Description

This category includes businesses that provide landscaping and landscape maintenance/gardening services.

## Pollutant Sources

The following are sources of pollutants:

- Selecting plants or landscape design
- Installing new landscaping
- Maintaining landscapes
- Using pesticides and fertilizers
- Using gas-powered equipment
- Working near waterbodies

Pollutants can include:

- Nutrients (fertilizers, yard wastes)
- Pesticides
- Heavy metals (copper, lead, and zinc)
- Hydrocarbons (fuels, oils and grease)
- Sediments

## Approach

Minimize the potential for stormwater pollution and the need for resources/controls (water, pesticides, fertilizers) by creating and maintaining landscapes in a way that is compatible with the local soils, climate, and amount of rain and sun. Make stormwater

pollution prevention BMPs a part of standard operating procedures and the employee training program. Provide employee education materials in the first language of employees, as necessary.

## Source Control BMPs

The best management practices are listed by activity or area.

### Landscape Design

- Specify native, low maintenance, and insectary (attract beneficial insects) plants and landscape designs.
- Design zoned, water-efficient irrigation systems using technologies such drip irrigation, soaker hoses, or microspray systems.
- Do not landscape riparian areas, except to remove non-native plants and replace them with native riparian landscaping.
- Replant with native species where possible when landscaping or building an ornamental pond. Do not assume something is native because you have seen it in your area. Contact the local nursery for information or visit the California Exotic Pest Plant Council website (www.caleppc.org).

### Landscape Installation

- Protect stockpiles and landscaping materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Schedule grading and excavation projects during dry weather.
- Divert runoff from exposed soils or lower its velocity by leveling and terracing.
- Use temporary check dams or ditches to divert runoff away from storm drains.
- Protect storm drains with sandbags or other sediment controls.
- Revegetation is an excellent form of erosion control for any site. Keep soils covered with vegetation or temporary cover material (mulch) to control erosion.
- Check plant roots before buying a plant. Do not buy plants with roots are that kinked or circling around the container. Do not buy plants with soft, rotten, or deformed root crowns.
- Do not pile soil around the plant any higher than the root crown.

### Landscape Maintenance

Yard Waste

- Allow leaf drop to become part of the mulch layer in tree, shrub, and groundcover areas.
- Keep lawn mower blades sharp and grasscycle.
- Grasscycle – leave grass clippings on the lawn when mowing. Once cut, grass clippings first dehydrate, then decompose, quickly disappearing from view. Proper mowing is required for successful grasscycling. Cut grass when the surface is dry, and keep mower blades sharp. Follow the "1/3 Rule": mow the lawn often enough so that no more than 1/3 of the length of the grass blade is cut in any one mowing. Frequent mowing will produce short clippings that will not cover up the grass surface. The lawn may have to be cut every seven days when the lawn is growing fast but only every 7 to 14 days when the lawn is growing slowly.

- Do not leave clippings on pavement or sidewalks where they can wash off into the street, gutter, or storm drain.
- Collect lawn and garden clippings, pruning waste, and tree trimmings. Chip if necessary, and compost or take to the local municipal yard waste recycling/composting facility.
- In communities with curbside pick-up of yard waste, place clippings and pruning waste at the curb in approved bags or containers. No curbside pickup of yard waste is available for commercial properties.
- Do not blow or rake leaves or other yard waste into the street, or place yard waste in gutters or on dirt shoulders, unless it is being piled up for recycling (allowed by some municipalities). After pick-up, sweep up any leaves, litter, or residue in gutters or on street.

### Fertilizing and Pruning

- Perform soil analysis seasonally to determine actual fertilization need and application rates.
- Fertilize garden areas with a mulch of leaves, bark, or composted manure and/or garden waste.
- Apply chemical fertilizer only as needed, when plants can best use it, and when the potential for it being carried away by runoff is low. Make sure the fertilizer spreader is calibrated.
- Prune plants sparingly, if at all. A healthy plant – one that is native to the area and growing under the right conditions – should not need pruning, except when it is not in the right location (where safety or liability is a concern).

### Watering

- Use soil probes to determine soil moisture depth, overall moisture levels, and the need to adjust irrigation schedules.

### Pest and Weed Control

- Anyone who is in the business of landscape maintenance and performs pest control as part of providing that service must have a license from the state to apply pesticides. Contact the Department of Pesticide Regulation for more information.
- Become trained in and offer customers less-toxic pest control or Integrated Pest Management (IPM).
- The label on a pesticide container is a legal document. Use a pesticide only as instructed on the label.
- Store pesticides, fertilizers, and other chemicals indoors or in a shed or storage cabinet.
- Use pesticides sparingly, according to instructions on the label. Rinse empty containers, and use rinsewater as product.
- Dispose of rinsed, empty containers in the trash. Dispose of unused pesticides as hazardous waste.
- To control weeds, use drip irrigation and mulch. Hand-pull weeds including roots or cut down to ground. Repeat cutting before they flower, grow new leaves, or go to seed. Use herbicides containing pelargonic acid or herbicidal soap as a last resort.

### Handling Gasoline

- Use only containers approved by a nationally recognized testing lab, such as Underwriters Laboratories (UL). Keep the container tightly sealed. Containers should be fitted with a spout to allow pouring without spilling and to minimize the generation of vapors.
- Fill cautiously. Always use a funnel and/or spout to prevent spilling or splashing when fueling power mowers, blowers, and all other gas-powered equipment.
- Avoid spilling gasoline on the ground, especially near wells. If a spill occurs use kitty litter, saw dust, or an absorbent towel to soak up the spill, then dispose of it properly.
- Store carefully. Gasoline moves quickly through soil and into groundwater, therefore, store and use gasoline and fuel equipment as far away from your drinking water well as possible. Be certain to keep a closed cap on the gasoline container. Store at ground level, not on a shelf to minimize the danger of falling and spilling.
- Do not dispose of gasoline down the drain, into surface water, onto the ground, or in the trash. Contact the local municipality for directions on proper disposal of excess or old gasoline. Transport old gas in an approved gasoline container.

### Working Near Waterbodies

- Do not dump lawn clippings, other yard waste, or soil along creek banks or in creeks.
- Do not store stockpiles of materials (soil, mulch) along creek banks. These piles can erode over time into a creek.
- Do not spray pesticides or fertilizers by creeks.
- Do not over water near streams. The excess water may carry pesticides, fertilizers, sediments, and anything else in its path directly into the creek.
- Do not remove native vegetation along creek banks or remove large woody debris from creek banks or creeks. Instead, contact the local municipal planning department and Department of Fish & Game for guidance.

## Treatment Control BMPs

Not applicable.

## More Information

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### Videos

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City of Bellevue, 1991. Water Quality Protection for Landscaping Businesses, Business Partners for Clean Water.

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County of Los Angeles, no date. Landscaping and Nursery Facilities – Best Management Practices, Project Pollution Prevention.

Marin County Stormwater Pollution Prevention Program, no date. Creek Care: A Guide for Urban Marin Residents. (http://www.mcstoppp.org/).

Professional Lawn Care Association of America, 1997. Water Quality and Your Lawn. (http://www.pesp.org/1995/plcaa95-final.htm).

San Francisquito Watershed Council and San Mateo Countywide Stormwater Pollution Prevention Program, no date. Streamside Planting Guide for San Mateo and Santa Clara County Streams. (http://www.acterra.org/watershed/)

Santa Clara Valley Urban Runoff Pollution Prevention Program, 2001. Landscaping, Gardening, and Pool Maintenance – Best Management Practices for the Construction Industry.

The Alliance for Proper Gasoline Handling, 1999. Consumer Tips for Proper Gasoline Handling. (http://www.gas-care.org/consumer_tips.htm).

# Structural BMPs

# Vortex Separator MP-51

## Description

Vortex separators: (alternatively, swirl concentrators) are gravity separators, and in principle are essentially wet vaults. The difference from wet vaults, however, is that the vortex separator is round, rather than rectangular, and the water moves in a centrifugal fashion before exiting. By having the water move in a circular fashion, rather than a straight line as is the case with a standard wet vault, it is possible to obtain significant removal of suspended sediments and attached pollutants with less space. Vortex separators were originally developed for combined sewer overflows (CSOs), where it is used primarily to remove coarse inorganic solids. Vortex separation has been adapted to stormwater treatment by several manufacturers.

## California Experience

There are currently about 100 installations in California.

## Advantages

- May provide the desired performance in less space and therefore less cost.
- May be more cost-effective pre-treatment devices than traditional wet or dry basins.
- Mosquito control may be less of an issue than with traditional wet basins.

## Limitations

- As some of the systems have standing water that remains between storms, there is concern about mosquito breeding.
- It is likely that vortex separators are not as effective as wet vaults at removing fine sediments, on the order 50 to 100 microns in diameter and less.
- The area served is limited by the capacity of the largest models.
- As the products come in standard sizes, the facilities will be oversized in many cases relative to the design treatment storm, increasing the cost.
- The non-steady flows of stormwater decreases the efficiency of vortex separators from what may be estimated or determined from testing under constant flow.
- Do not remove dissolved pollutants.
- A loss of dissolved pollutants may occur as accumulated organic

## Design Considerations

- Service Area
- Settling Velocity
- Appropriate Sizing
- Inlet Pipe Diameter

## Targeted Constituents

| | | |
|---|---|---|
| ✓ | Sediment | ▲ |
| ✓ | Nutrients | ● |
| ✓ | Trash | |
| ✓ | Metals | ● |
| | Bacteria | |
| ✓ | Oil and Grease | |
| ✓ | Organics | |

**Legend** ***(Removal Effectiveness)***

● Low ■ High

▲ Medium

CASQA California Stormwater Quality Association

matter (e.g., leaves) decomposes in the units.

### Design and Sizing Guidelines

The stormwater enters, typically below the effluent line, tangentially into the basin, thereby imparting a circular motion in the system. Due to centrifugal forces created by the circular motion, the suspended particles move to the center of the device where they settle to the bottom. There are two general types of vortex separation: free vortex and dampened (or impeded) vortex. Free vortex separation becomes dampened vortex separation by the placement of radial baffles on the weir-plate that impede the free vortex-flow pattern

It has been stated with respect to CSOs that the practical lower limit of vortex separation is a particle with a settling velocity of 12 to 16.5 feet per hour (0.10 to 0.14 cm/s). As such, the focus for vortex separation in CSOs has been with settleable solids generally 200 microns and larger, given the presence of the lighter organic solids. For inorganic sediment, the above settling velocity range represents a particle diameter of 50 to 100 microns. Head loss is a function of the size of the target particle. At 200 microns it is normally minor but increases significantly if the goal is to remove smaller particles.

The commercial separators applied to stormwater treatment vary considerably with respect to geometry, and the inclusion of radial baffles and internal circular chambers. At one extreme is the inclusion of a chamber within the round concentrator. Water flows initially around the perimeter between the inner and outer chambers, and then into the inner chamber, giving rise to a sudden change in velocity that purportedly enhances removal efficiency. The opposite extreme is to introduce the water tangentially into a round manhole with no internal parts of any kind except for an outlet hood. Whether the inclusion of chambers and baffles gives better performance is unknown. Some contend that free vortex, also identified as swirl concentration, creates less turbulence thereby increasing removal efficiency. One product is unique in that it includes a static separator screen.

- Sized is based on the peak flow of the design treatment event as specified by local government.
- If an in-line facility, the design peak flow is four times the peak of the design treatment event.
- If an off-line facility, the design peak flow is equal to the peak of the design treatment event.
- Headloss differs with the product and the model but is generally on the order of one foot or less in most cases.

#### *Construction/Inspection Considerations*

No special considerations.

### Performance

Manufacturer's differ with respect to performance claims, but a general statement is that the manufacturer's design and rated capacity (cfs) for each model is based on and believed to achieve an aggregate reduction of 90% of all particles with a specific gravity of 2.65 (glacial sand) down to 150 microns, and to capture the floatables, and oil and grease. Laboratory tests of two products support this claim. The stated performance expectation therefore implies that a

lesser removal efficiency is obtained with particles less than 150 microns, and the lighter, organic settleables. Laboratory tests of one of the products found about 60% removal of 50 micron sand at the expected average operating flow rate

Experience with the use of vortex separators for treating combined sewer overflows (CSOs), the original application of this technology, suggests that the lower practical limit for particle removal are particles with a settling velocity of 12 feet per hour (Sullivan, 1982), which represents a particle diameter of 100 to 200 microns, depending on the specific gravity of the particle. The CSO experience therefore seems consistent with the limited experience with treating stormwater, summarized above

Traditional treatment technologies such as wet ponds and extended detention basins are generally believed to be more effective at removing very small particles, down to the range of 10 to 20 microns. Hence, it is intuitively expected that vortex separators do not perform as well as the traditional wet and dry basins, and filters. Whether this matters depends on the particle size distribution of the sediments in stormwater. If the distribution leans towards small material, there should be a marked difference between vortex separators and, say, traditional wet vaults. There are little data to support this conjecture

In comparison to other treatment technologies, such as wet ponds and grass swales, there are few studies of vortex separators. Only two of manufactured products currently available have been field tested. Two field studies have been conducted. Both achieved in excess of 80% removal of TSS. However, the test was conducted in the Northeast (New York state and Maine) where it is possible the stormwater contained significant quantities of deicing sand. Consequently, the influent TSS concentrations and particle size are both likely considerably higher than is found in California stormwater. These data suggest that if the stormwater particles are for the most part fine (i.e., less than 50 microns), vortex separators will not be as efficient as traditional treatment BMPs such as wet ponds and swales, if the latter are sized according to the recommendations of this handbook.

There are no equations that provide a straightforward determination of efficiency as a function of unit configuration and size. Design specifications of commercial separators are derived from empirical equations that are unique and proprietary to each manufacturer. However, some general relationships between performance and the geometry of a separator have been developed. CSO studies have found that the primary determinants of performance of vortex separators are the diameters of the inlet pipe and chamber with all other geometry proportional to these two.

Sullivan et al. (1982) found that performance is related to the ratios of chamber to inlet diameters, D2/D1, and height between the inlet and outlet and the inlet diameter, H1/D1, shown in Figure 3. The relationships are: as D2/D1 approaches one, the efficiency decreases; and, as the H1/D1 ratio decreases, the efficiency decreases. These relationships may allow qualitative comparisons of the alternative designs of manufacturers. Engineers who wish to apply these concepts should review relevant publications presented in the References.

### Siting Criteria

There are no particularly unique siting criteria. The size of the drainage area that can be served by vortex separators is directly related to the capacities of the largest models.

## Additional Design Guidelines

Vortex separators have two capacities if positioned as in-line facilities, a treatment capacity and a hydraulic capacity. Failure to recognize the difference between the two may lead to significant under sizing; i.e., too small a model is selected. This observation is relevant to three of the five products. These three technologies all are designed to experience a unit flow rate of about 24 gallons/square foot of separator footprint at the peak of the design treatment event. This is the horizontal area of the separator zone within the container, not the total footprint of the unit. At this unit flow rate, laboratory tests by these manufacturers have established that the performance will meet the general claims previously described. However, the units are sized to handle 100 gallons/square foot at the peak of the hydraulic event. Hence, in selecting a particular model the design engineer must be certain to match the peak flow of the design event to the stated treatment capacity, not the hydraulic capacity. The former is one-fourth the latter. If the unit is positioned as an off-line facility, the model selected is based on the capacity equal to the peak of the design treatment event.

## Maintenance

Maintenance consists of the removal of accumulated material with an eductor truck. It may be necessary to remove and dispose the floatables separately due to the presence of petroleum product.

### *Maintenance Requirements*

Remove all accumulated sediment, and litter and other floatables, annually, unless experience indicates the need for more or less frequent maintenance.

## Cost

Manufacturers provide costs for the units including delivery. Installation costs are generally on the order of 50 to 100 % of the manufacturer's cost. For most sites the units are cleaned annually.

### *Cost Considerations*

The different geometry of the several manufactured separators suggests that when comparing the costs of these systems to each other, that local conditions (e.g., groundwater levels) may affect the relative cost-effectiveness.

## References and Sources of Additional Information

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Field, R., D. Averill, T.P. O'Connor, and P. Steel, 1997, Vortex separation technology, Water Qual. Res. J. Canada, 32, 1, 185

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# Appendix E

Soils Report

# Sladden Engineering

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**450 Egan Avenue, Beaumont, CA. 92223 (951) 845-7743 Fax (951) 845-8863**
www.sladdenengineering.com


January 12, 2023

Project No. 644-22060
23-01-004

Bremco Construction, Inc.
3470 East Spring Street
Long Beach, California 90806

Project: Proposed Brown-Strauss Steel Facility
1210 & 1431 West Lincoln Street
APN 540-180-020, 022 & 026
Banning, California

Ref: Geotechnical Investigation, Proposed Brown-Strauss Steel Facility, 1210 & 1431 West Lincoln Street, APN 540-180-020, 022 & 026, Banning California; Prepared by Sladden Engineering; Project No. 644-22060, Report No. 22-12-145, dated January 5, 2023.

Subject: Percolation/Infiltration Testing for On-Site Stormwater Management

In accordance with your request, we have performed percolation testing on the subject site to evaluate the infiltration potential of the near surface soil to assist in stormwater management system design. It is our understanding that on-site stormwater retention including infiltration is proposed for the project.

Percolation testing was performed on December 16, 2022, within two (2) shallow tests bores excavated on the site. Testing was performed at depths of approximately 10.0 feet and 5.0 feet below existing grade for test locations P-1 and P-2, respectively. The approximate locations of the test holes are presented on the attached Exploration Location Plan (Figure 3). Testing was performed by placing water within the test holes and recording the drop in the water surface with time. Testing was performed in general accordance with the *United States Bureau of Reclamation (BOR) Procedure 7300-89 (1999)*. Test results are summarized in the following table.

**PERCOLATION TEST RESULTS**

| Test No. | Depth (Ft) | USCS | Percolation Rate (in/hr) | Infiltration Rate (in/hr) |
|---|---|---|---|---|
| P-1 | 10.0 | SC | 25.5 | 2.57 |
| P-2 | 5.00 | SC | 45.75 | 5.03 |

**The percolation rates determined represent the ultimate field rates that do not include a safety factor. The corresponding infiltration rates were calculated using the Porchet Method.**

Based on our field investigation and our review of groundwater levels[1] within the vicinity, it is our professional opinion that groundwater should not be a controlling factor in on-site stormwater retention/infiltration system design.

If you have any questions regarding this memo or the testing summarized herein, please contact the undersigned.

Respectfully submitted,
**SLADDEN ENGINEERING**

Matthew J. Cohrt
Principal Geologist

CERTIFIED ENGINEERING GEOLOGIST
MATTHEW J. COHRT
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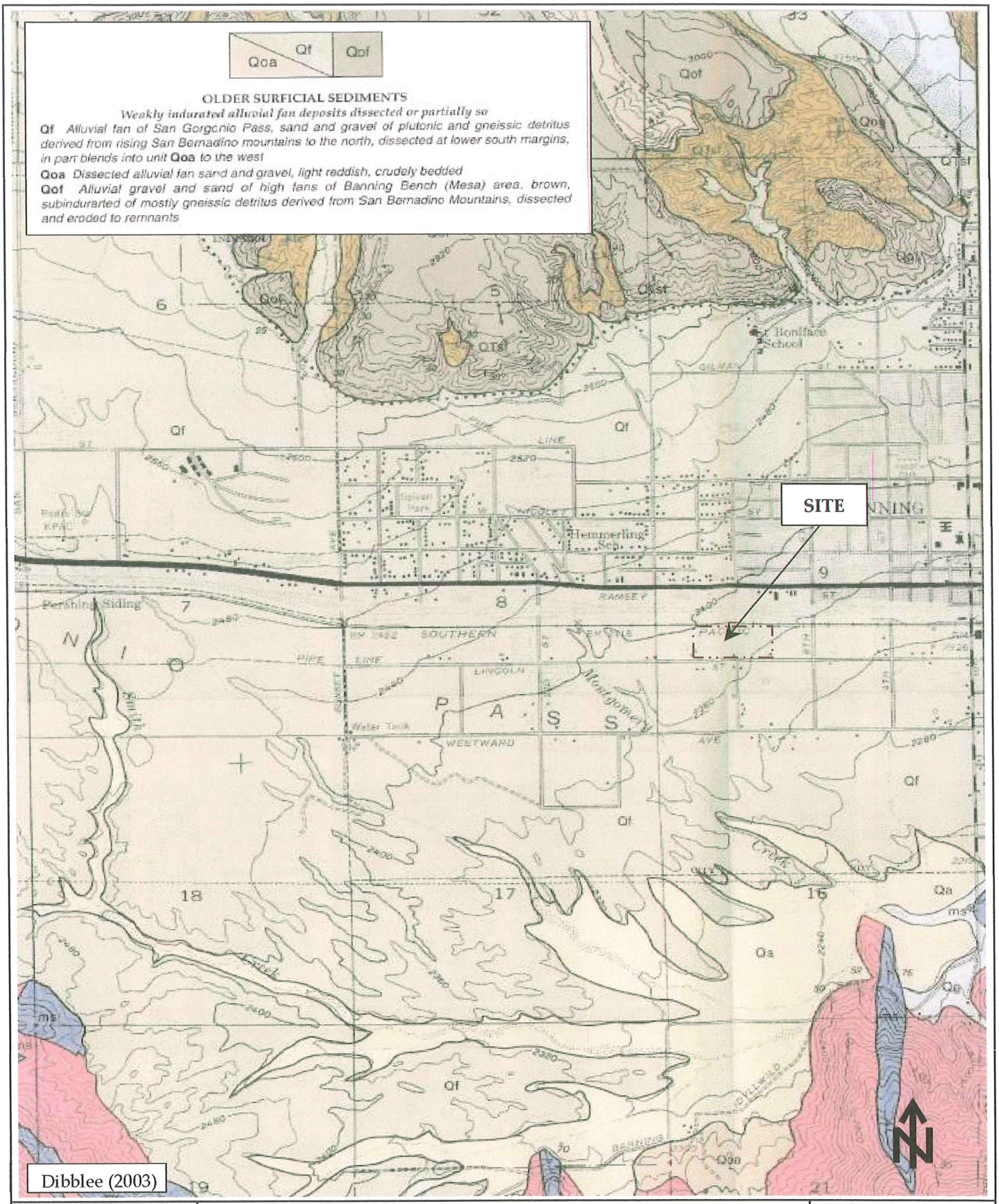
Copies: PDF/Addressee

[1] California Department of Water Resources (CDWR), 2023, Historical Data by Well-Map Interface, available at: http://wdl.water.ca.gov/waterdatalibrary/Home.aspx

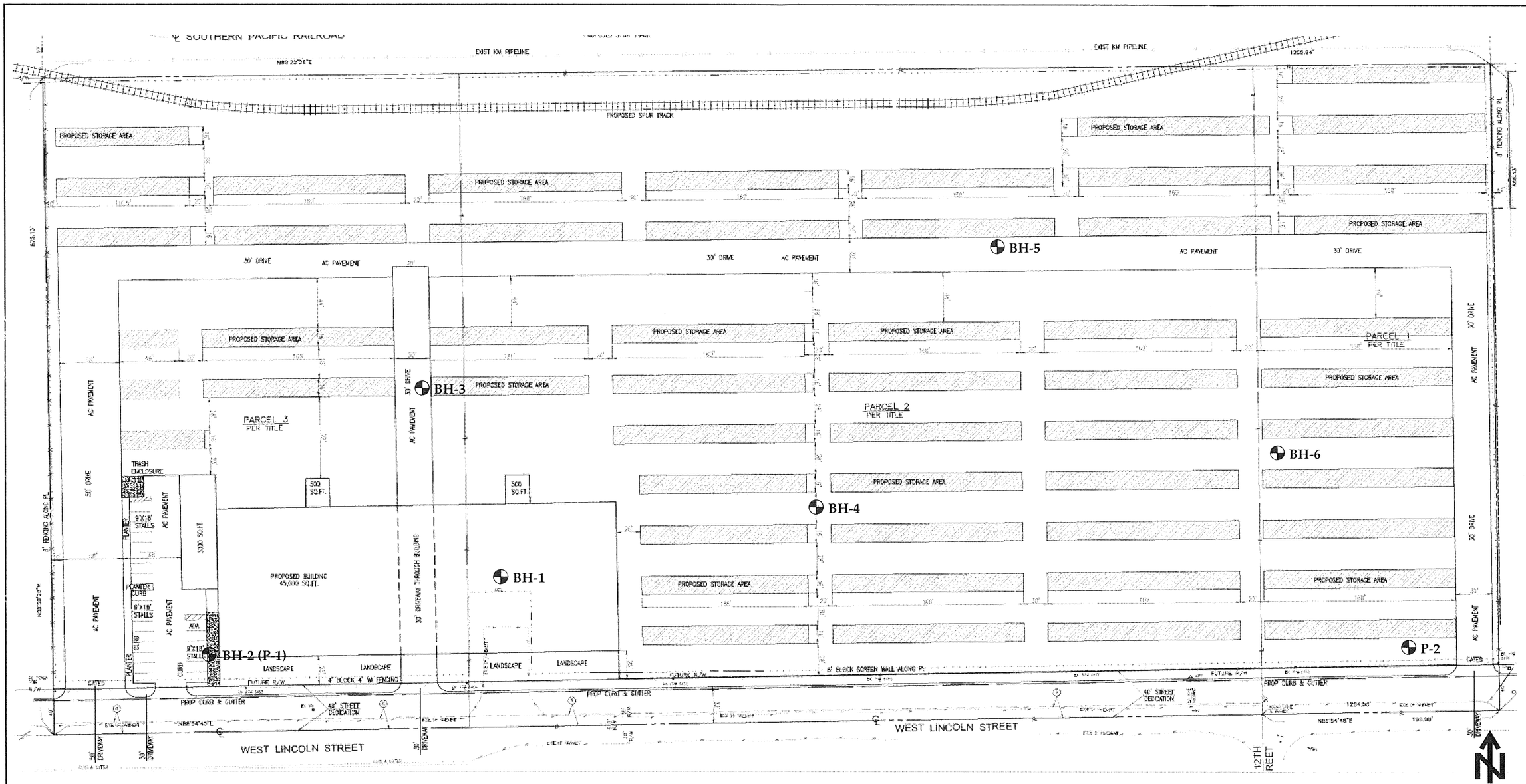
SITE LOCATION MAP
REGIONAL GEOLOGIC MAP
EXPLORATION LOCATION PLAN




| | | |
|---|---|---|
| Sladden Engineering | SITE LOCATION MAP | FIGURE 1 |
| | Project Number: 644-22060 | |
| | Report Number: 23-01-004 | |
| | Date: January 12, 2023 | |




| | | |
|---|---|---|
| Sladden Engineering | REGIONAL GEOLOGIC MAP | FIGURE 2 |
| | Project Number: | 644-22060 |
| | Report Number: | 23-01-004 |
| | Date: | January 12, 2023 |




## LEGEND

**BH-6 (P-2)** Borehole Location (Percolation Test Location)

**Sladden Engineering**

# BOREHOLE LOCAITON PLAN

| | |
|---|---|
| Project Number: | 644-22060 |
| Report Number: | 23-01-004 |
| Date: | January 12, 2023 |

**FIGURE**

3

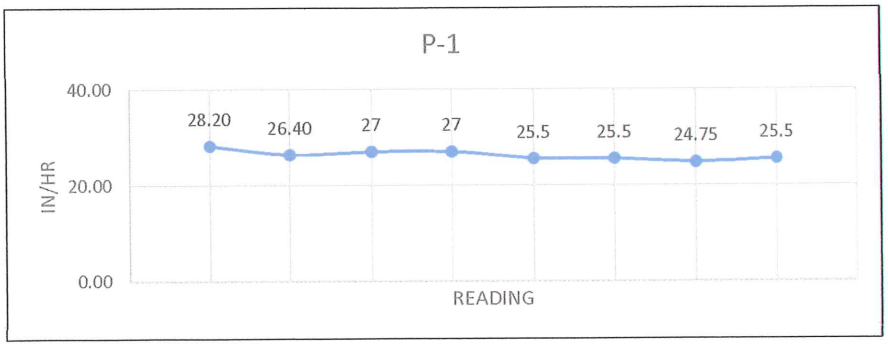
PERCOLATION/INFILTRATION TEST DATA SHEETS

## STORMWATER PERCOLATION SHEET (LESS THAN 10 FT)

| | | | |
|---|---|---|---|
| Project: | 1210 & 1431 W. Lincoln Street, Banning | Depth (ft): | 10.00 |
| Job No. : | 644-22060 | USCS Soil Class: | SC |
| Date: | 12/16/2022 | Sandy Soil: | S.D. |
| Test Hole #: | P-1 | Tested By: | S.D./E.S. |

| READING | TIME (min) | DEPTH (ft) | INITIAL W (in) | FINAL W (in) | ΔW (in) | IN/HR |
|---|---|---|---|---|---|---|
| A | 25.00 | 10.00 | 20 | 8 2/8 | 11 6/8 | 28.20 |
| B | 25.00 | 10.00 | 20 | 9 | 11 | 26.40 |

| READING | TIME (min) | DEPTH (ft) | INITIAL W (in) | FINAL W (in) | ΔW (in) | IN/HR |
|---|---|---|---|---|---|---|
| 1 | 10.00 | 10.00 | 20 | 15 4/8 | 4 4/8 | 27 |
| 2 | 10.00 | 10.00 | 20 | 15 4/8 | 4 4/8 | 27 |
| 3 | 10.00 | 10.00 | 20 | 15 6/8 | 4 2/8 | 25.5 |
| 4 | 10.00 | 10.00 | 20 | 15 6/8 | 4 2/8 | 25.5 |
| 5 | 10.00 | 10.00 | 20 | 15 7/8 | 4 1/8 | 24.75 |
| 6 | 10.00 | 10.00 | 20 | 15 6/8 | 4 2/8 | 25.5 |




## PERCOLATION RATE CONVERSION (PORCHET METHOD)

$$I_{t=} \quad \frac{\Delta H\ 60\ R}{\Delta t(r+2H_{avg})}$$

| | |
|---|---|
| Δt = | 10.00 |
| $D_f$ = | 104.25 |
| r = | 4.00 |
| $D_0$ = | 100 |
| $D_t$ = | 120.00 |
| $H_0$ = | 20 |
| $H_f$ = | 15.75 |
| ΔH = | 4.25 |
| $H_{avg}$ = | 17.88 |

Δt (minutes)

$D_f$ (Final Depth to water)

r (hole radius in inches)

$D_0$ (Initial Depth to water)

$D_t$ (Total Depth of test hole)

$H_0$ (initial height of water at selected time interval)

$$H_0 = D_t - D_0$$

$H_f$ (final height of water at the selected time interval)

$$H_f = D_t - D_f$$

ΔH (change in head over the time interval)

$$\Delta H = H_0 - H_f$$

$H_{avg}$ (average head height over the time interval)

$$H_{avg} = (H_0 + H_f)/2$$

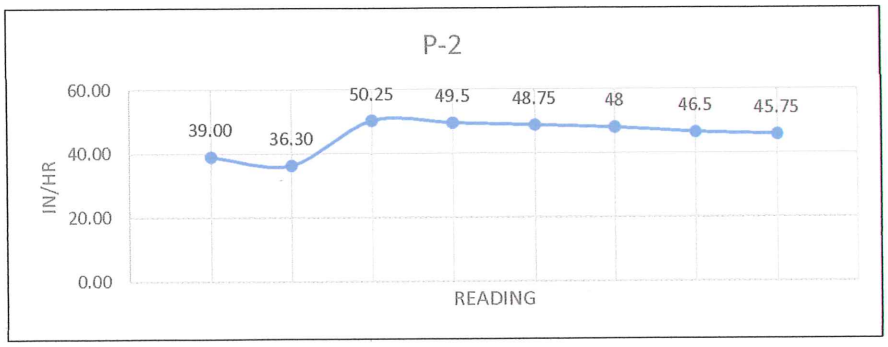
| | |
|---|---|
| Field Rate: | 25.5 in/hr |
| Infiltration Rate: | 2.57 in/hr |

## STORMWATER PERCOLATION SHEET (LESS THAN 10 FT)

| | | | |
|---|---|---|---|
| Project: | 1210 & 1431 W. Lincoln Street, Banning | Depth (ft): | 5.00 |
| Job No. : | 644-22060 | USCS Soil Class: | SC |
| Date: | 12/16/2022 | Sandy Soil: | S.D. |
| Test Hole #: | P-2 | Tested By: | S.D./E.S. |

| READING | TIME (min) | DEPTH (ft) | INITIAL W (in) | FINAL W (in) | ΔW (in) | IN/HR |
|---|---|---|---|---|---|---|
| A | 25.00 | 5.00 | 20 | 3 6/8 | 16 2/8 | 39.00 |
| B | 25.00 | 5.00 | 20 | 4 7/8 | 15 1/8 | 36.30 |

| READING | TIME (min) | DEPTH (ft) | INITIAL W (in) | FINAL W (in) | ΔW (in) | IN/HR |
|---|---|---|---|---|---|---|
| 1 | 10.00 | 5.00 | 20 | 11 5/8 | 8 3/8 | 50.25 |
| 2 | 10.00 | 5.00 | 20 | 11 6/8 | 8 2/8 | 49.5 |
| 3 | 10.00 | 5.00 | 20 | 11 7/8 | 8 1/8 | 48.75 |
| 4 | 10.00 | 5.00 | 20 | 12 | 8 | 48 |
| 5 | 10.00 | 5.00 | 20 | 12 2/8 | 7 6/8 | 46.5 |
| 6 | 10.00 | 5.00 | 20 | 12 3/8 | 7 5/8 | 45.75 |




### PERCOLATION RATE CONVERSION (PORCHET METHOD)

$$I_{t=} \quad \frac{\Delta H\ 60\ R}{\Delta t(r+2H_{avg})}$$

| | |
|---|---|
| Δt = | 10.00 |
| $D_f$ = | 47.63 |
| r = | 4.00 |
| $D_0$ = | 40 |
| $D_t$ = | 60.00 |
| $H_0$ = | 20 |
| $H_f$ = | 12.375 |
| ΔH = | 7.63 |
| $H_{avg}$ = | 16.19 |

Δt (minutes)

$D_f$ (Final Depth to water)

r (hole radius in inches)

$D_0$ (Initial Depth to water)

$D_t$ (Total Depth of test hole)

$H_0$ (initial height of water at selected time interval)

$$H_0 = D_t - D_0$$

$H_f$ (final height of water at the selected time interval)

$$H_f = D_t - D_f$$

ΔH (change in head over the time interval)

$$\Delta H = H_0 - H_f$$

$H_{avg}$ (average head height over the time interval)

$$H_{avg} = (H_0 + H_f)/2$$

| | |
|---|---|
| Field Rate: | 45.75 in/hr |
| Infiltration Rate: | 5.03 in/hr |

BORELOGS

**Sladden Engineering**

# BORE LOG

| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
|---|---|---|---|
| Elevation: | 2,380 Feet MSL | Boring No: | BH-1 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | 19 32 29 | 1 | 12 | 41.1 | 6.0 | 119.6 | 2 | | Clayey Sand (SC); reddish brown, dry to slightly moist, dense, fine- to coarse-grained (Qf). |
| | 12 15 26 | | | 43.7 | 11.6 | 114.4 | 6 | | Clayey Sand (SC); reddish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | 10 13 13 | | | 22.7 | 7.2 | | 10 | | Clayey Sand (SC); reddish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | 10 14 25 | | | 8.4 | 4.2 | 119.7 | 16 | | Sand (SW); dark yellowish brown, dry, medium dense, fine- to coarse-grained (Qf). |
| | 14 15 20 | | | 13.6 | 4.7 | | 20 | | Clayey Sand (SC); reddish brown, dry, medium dense, fine- to coarse-grained (Qf). |
| | 29 34 38 | | | 9.2 | 3.3 | 125.5 | 26 | | Sand (SW); yellowish brown, dry, dense, fine- to coarse-grained (Qf). |
| | 18 20 21 | | | 15.1 | 4.4 | | 30 | | Clayey Sand (SC); reddish brown, dry, dense, fine- to coarse-grained (Qf). |
| | 50-6 | | | 9.8 | 3.4 | 120.2 | 36 | | Sand (SP); yellowish brown, dry, very dense, fine-grained with gravel (Qf). |
| | 50-6 | | | 9.1 | 3.5 | | 40 | | Sand (SP); yellowish brown, dry, very dense, fine-grained with gravel (Qf). |
| | 50-6 | | | 6.9 | 2.6 | | 46 | | Sand (SP); yellowish brown, dry, very dense, fine-grained with gravel (Qf). |
| | | | | | | | 48 | | Practical Refusal at 45.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| Project No: | 644-22060 | Page | 1 |
|---|---|---|---|
| Report No: | 23-01-004 | | |

**Sladden Engineering**

# BORE LOG

| | | | |
|---|---|---|---|
| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
| Elevation: | 2,380 Feet MSL | Boring No: | BH-2 (P-1) |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| | 4 5 7 | | | 34.0 | 11.3 | | 5 | | Clayey Sand (SC); reddish brown, dry to slightly moist, dense, fine- to coarse-grained (Qf). |
| | 12 24 25 | | | 12.5 | 5.2 | 128.5 | 10 | | Silty Sand (SM); yellowish brown, dry to slightly moist, dense, fine- to coarse-grained (Qf). |
| | | | | | | | 12 | | Terminated at 11.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| | | | |
|---|---|---|---|
| Project No: | 644-22060 | Page | 2 |
| Report No: | 23-01-004 | | |

**Sladden Engineering**

# BORE LOG

| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
|---|---|---|---|
| Elevation: | 2,380 Feet MSL | Boring No: | BH-3 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| | 7 11 13 | | | 32.1 | 12.3 | 111.5 | 6 | | Clayey Sand (SC); reddish brown, moist, medium dense, fine- to coarse-grained (Qf). |
| | 6 7 10 | | | 23.9 | 7.2 | | 10 | | Clayey Sand (SC); yellowish brown, moist, medium dense, fine- to coarse-grained (Qf). |
| | 8 17 23 | | | 13.4 | 4.8 | 122.7 | 16 | | Clayey Sand (SC); yellowish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | 9 11 13 | | | 20.4 | 7.9 | | 20 | | Clayey Sand (SC); yellowish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | | | | | | | 22 | | Terminated at ~21.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| Project No: | 644-22060 | Page | 3 |
|---|---|---|---|
| Report No: | 23-01-004 | | |

**Sladden Engineering**

# BORE LOG

| | | | |
|---|---|---|---|
| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
| Elevation: | 2,380 Feet MSL | Boring No: | BH-4 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| | | | | | | | 2 | | |
| | | | | | | | 4 | | |
| | 11 16 15 | | | 33.7 | 7.5 | | 6 | | Clayey Sand (SC); reddish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | | | | | | | 8 | | |
| | 12 18 23 | | | 16.2 | 8.6 | 121.7 | 10 | | Clayey Sand (SC); reddish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | | | | | | | 12 | | |
| | | | | | | | 14 | | |
| | 13 15 24 | | | 14.6 | 5.6 | | 16 | | Silty Sand (SM); yellowish brown, slightly moist, dense, fine- to coarse-grained with gravel (Qf). |
| | | | | | | | 18 | | Terminated at ~16.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |
| | | | | | | | 20 | | |
| | | | | | | | 22 | | |
| | | | | | | | 24 | | |
| | | | | | | | 26 | | |
| | | | | | | | 28 | | |
| | | | | | | | 30 | | |
| | | | | | | | 32 | | |
| | | | | | | | 34 | | |
| | | | | | | | 36 | | |
| | | | | | | | 38 | | |
| | | | | | | | 40 | | |
| | | | | | | | 42 | | |
| | | | | | | | 44 | | |
| | | | | | | | 46 | | |
| | | | | | | | 48 | | |
| | | | | | | | 50 | | |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| | | | |
|---|---|---|---|
| Project No: | 644-22060 | Page | 4 |
| Report No: | 23-01-004 | | |

**Sladden Engineering**

# BORE LOG

| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
|---|---|---|---|
| Elevation: | 2,380 Feet MSL | Boring No: | BH-5 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0–4 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| ■ | 17 18 21 | | | 37.8 | 9.2 | | 6–8 | | Silty Sand (SM); reddish brown, slightly moist, medium dense, fine- to coarse-grained with gravel (Qf). |
| ◧ | 12 16 20 | | | 20.3 | 4.9 | | 10–14 | | Silty Sand (SM); reddish brown, slightly moist, medium dense, fine- to coarse-grained with gravel (Qf). |
| ■ | 10 11 14 | | | 10.3 | 3.7 | 123.5 | 16–18 | | Sand (SP); yellowish brown, dry, medium dense, fine- to coarse-grained (Qf). |
| ◧ | 11 13 16 | | | 9.6 | 3.5 | | 20–22 | | Sand (SW); yellowish brown, dry, medium dense, fine- to coarse-grained (Qf). |
| | | | | | | | 22–50 | | Terminated at ~21.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| Project No: | 644-22060 | Page | 5 |
|---|---|---|---|
| Report No: | 23-01-004 | | |

**Sladden Engineering**

# BORE LOG

| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
|---|---|---|---|
| Elevation: | 2,380 Feet MSL | Boring No: | BH-6 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| | | | | | | | 2 | | |
| | | | | | | | 4 | | |
| ■ | 9 13 22 | | | 37.7 | 4.6 | 108.9 | 6 | | Clayey Sand (SC); reddish brown, slightly moist, medium dense, fine- to coarse-grained (Qf). |
| | | | | | | | 8 | | |
| ■ | 9 15 23 | | | 32.6 | 7.6 | | 10 | | Clayey Sand (SC); reddish brown, slightly moist, dense, fine- to coarse-grained (Qf). |
| | | | | | | | 12 | | |
| | | | | | | | 14 | | Terminated at ~11.5 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |
| | | | | | | | 16 | | |
| | | | | | | | 18 | | |
| | | | | | | | 20 | | |
| | | | | | | | 22 | | |
| | | | | | | | 24 | | |
| | | | | | | | 26 | | |
| | | | | | | | 28 | | |
| | | | | | | | 30 | | |
| | | | | | | | 32 | | |
| | | | | | | | 34 | | |
| | | | | | | | 36 | | |
| | | | | | | | 38 | | |
| | | | | | | | 40 | | |
| | | | | | | | 42 | | |
| | | | | | | | 44 | | |
| | | | | | | | 46 | | |
| | | | | | | | 48 | | |
| | | | | | | | 50 | | |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| Project No: | 644-22060 | Page | 6 |
|---|---|---|---|
| Report No: | 23-01-004 | | |

**Sladden Engineering**

# BORE LOG

| | | | |
|---|---|---|---|
| Equipment: | MOBILE B-61 | Date Drilled: | 11/30/2022 |
| Elevation: | 2,380 Feet MSL | Boring No: | P-2 |

| Sample | Blow Counts | Bulk Sample | Expansion Index | % Minus #200 | % Moisture | Density, pcf | Depth (Feet) | Graphic Lithology | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 2 | | Clayey Sand (SC); reddish brown, dry to slightly moist, fine- to coarse-grained (Qf). |
| | | | | | | | 4 | | |
| | | | | | | | 6 | | Terminated at ~5.0 Feet bgs.<br>No Bedrock Encountered.<br>No Groundwater or Seepage Encountered. |
| | | | | | | | 8 | | |
| | | | | | | | 10 | | |
| | | | | | | | 12 | | |
| | | | | | | | 14 | | |
| | | | | | | | 16 | | |
| | | | | | | | 18 | | |
| | | | | | | | 20 | | |
| | | | | | | | 22 | | |
| | | | | | | | 24 | | |
| | | | | | | | 26 | | |
| | | | | | | | 28 | | |
| | | | | | | | 30 | | |
| | | | | | | | 32 | | |
| | | | | | | | 34 | | |
| | | | | | | | 36 | | |
| | | | | | | | 38 | | |
| | | | | | | | 40 | | |
| | | | | | | | 42 | | |
| | | | | | | | 44 | | |
| | | | | | | | 46 | | |
| | | | | | | | 48 | | |
| | | | | | | | 50 | | |

Completion Notes:

PROPOSED BROWN-STRAUSS STEEL FACILITY
1210 & 1431 WEST LINCOLN STREET, BANNING, CALIFORNIA

| | | | |
|---|---|---|---|
| Project No: | 644-22060 | Page | 7 |
| Report No: | 23-01-004 | | |

# Appendix F

Structural BMP and/or Retention Facility Sizing Calculations and Design Details

# Whitewater Watershed

BMP Design Volume, $V_{BMP}$ (Rev. 06-2014)

Legend: Required Entries / Calculated Cells

| | | | |
|---|---|---|---|
| Company Name | Jospeh E. Bonadiman & Associates, Inc | Date | 3/8/2023 |
| Designed by | JTS | County/City Case No | |
| Company Project Number/Name | 225047 | | |
| Drainage Area Number/Name | DA-1 | | |

Enter the Area Tributary to this Feature ($A_{TRIB}$) $A_{TRIB}$ = 5.95 acres

## Determine the Impervious Area Ratio

Determine the Impervious Area within $A_{TRIB}$ ($A_{IMP}$) $A_{IMP}$ = 5.18 acres

Calculate Impervious Area Ratio ($I_f$) $I_f$ = 0.87

$I_f = A_{IMP}/A_{TRIB}$

## Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C_{BMP} = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$ $C_{BMP}$ = 0.69

## Determine Design Storage Volume, $V_{BMP}$

Calculate $V_U$, the 80% Unit Storage Volume $V_U = 0.40 \times C_{BMP}$ $V_u$ = 0.28 (in*ac)/ac

Calculate the design storage volume of the BMP, $V_{BMP}$.

$$V_{BMP}\ (ft^3) = \frac{V_U\ (in\text{-}ac/ac) \times A_T\ (ac) \times 43{,}560\ (ft^2/ac)}{12\ (in/ft)}$$

$V_{BMP}$ = 6,048 $ft^3$

Notes:

# Whitewater Watershed

BMP Design Flow Rate, $Q_{BMP}$ (Rev. 06-2014)

Legend: Required Entries / Calculated Cells

| | | | |
|---|---|---|---|
| Company Name | Joseph E Bonadiman & Assoc, Inc. | Date | 9/7/2023 |
| Designed by | JTS | County/City Case No | DR 223-7008 |
| Company Project Number/Name | Brown Strauss Steel | | |
| Drainage Area Number/Name | DMA-1 | | |

Enter the Area Tributary to this Feature ($A_{TRIB}$) $A_{TRIB}$ = 5.95 acres

## Determine the Impervious Area Ratio

Determine the Impervious Area within $A_{TRIB}$ ($A_{IMP}$) $A_{IMP}$ = 5.18 acres

Calculate Impervious Area Ratio ($I_f$) $I_f$ = 0.87

$I_f = A_{IMP}/A_{TRIB}$

## Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C_{BMP} = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$ $C_{BMP}$ = 0.69

## BMP Design Flow Rate

$Q_{BMP} = C_{BMP} \times I \times A_{TRIB}$ $Q_{BMP}$ = 0.82 $ft^3/s$

I = Design Rainfall Intensity, 0.2 in/hr

Notes:

# Whitewater Watershed

BMP Design Volume, $V_{BMP}$ (Rev. 06-2014)

Legend: Required Entries / Calculated Cells

| | | | |
|---|---|---|---|
| Company Name | Jospeh E. Bonadiman & Associates, Inc | Date | 3/8/2023 |
| Designed by | JTS | County/City Case No | |
| Company Project Number/Name | 225047 | | |
| Drainage Area Number/Name | DA-2 | | |

Enter the Area Tributary to this Feature ($A_{TRIB}$) $A_{TRIB}$ = 3.14 acres

## Determine the Impervious Area Ratio

Determine the Impervious Area within $A_{TRIB}$ ($A_{IMP}$) $A_{IMP}$ = 3.01 acres

Calculate Impervious Area Ratio ($I_f$) $I_f$ = 0.96

$I_f = A_{IMP}/A_{TRIB}$

## Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C_{BMP} = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$ $C_{BMP}$ = 0.82

## Determine Design Storage Volume, $V_{BMP}$

Calculate $V_U$, the 80% Unit Storage Volume $V_U = 0.40 \times C_{BMP}$ $V_u$ = 0.33 (in*ac)/ac

Calculate the design storage volume of the BMP, $V_{BMP}$.

$$V_{BMP}\ (ft^3) = \frac{V_U\ (in\text{-}ac/ac) \times A_T\ (ac) \times 43{,}560\ (ft^2/ac)}{12\ (in/ft)}$$

$V_{BMP}$ = 3,761 $ft^3$

Notes:

# Whitewater Watershed

BMP Design Flow Rate, $Q_{BMP}$ (Rev. 06-2014)

Legend: Required Entries / Calculated Cells

| | | | |
|---|---|---|---|
| Company Name | Joseph E Bonadiman & Assoc, Inc. | Date | 9/7/2023 |
| Designed by | JTS | County/City Case No | DR 223-7008 |
| Company Project Number/Name | Brown Strauss Steel | | |
| Drainage Area Number/Name | DMA-2 | | |

Enter the Area Tributary to this Feature ($A_{TRIB}$) $A_{TRIB}$ = 3.14 acres

## Determine the Impervious Area Ratio

Determine the Impervious Area within $A_{TRIB}$ ($A_{IMP}$) $A_{IMP}$ = 3.10 acres

Calculate Impervious Area Ratio ($I_f$) $I_f$ = 0.99

$I_f = A_{IMP}/A_{TRIB}$

## Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C_{BMP} = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$ $C_{BMP}$ = 0.87

## BMP Design Flow Rate

$Q_{BMP} = C_{BMP} \times I \times A_{TRIB}$ $Q_{BMP}$ = 0.55 $ft^3/s$

I = Design Rainfall Intensity, 0.2 in/hr

Notes:

# Whitewater Watershed

BMP Design Volume, $V_{BMP}$ (Rev. 06-2014)

Legend: Required Entries / Calculated Cells

| | | | |
|---|---|---|---|
| Company Name | Jospeh E. Bonadiman & Associates, Inc | Date | 3/8/2023 |
| Designed by | JTS | County/City Case No | |
| Company Project Number/Name | 225047 | | |
| Drainage Area Number/Name | DA-3 | | |

Enter the Area Tributary to this Feature ($A_{TRIB}$) $A_{TRIB}$ = 4.52 acres

## Determine the Impervious Area Ratio

Determine the Impervious Area within $A_{TRIB}$ ($A_{IMP}$) $A_{IMP}$ = 4.48 acres

Calculate Impervious Area Ratio ($I_f$) $I_f$ = 0.99

$I_f = A_{IMP}/A_{TRIB}$

## Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C_{BMP} = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$ $C_{BMP}$ = 0.88

## Determine Design Storage Volume, $V_{BMP}$

Calculate $V_U$, the 80% Unit Storage Volume $V_U = 0.40 \times C_{BMP}$ $V_u$ = 0.35 (in*ac)/ac

Calculate the design storage volume of the BMP, $V_{BMP}$.

$$V_{BMP}\ (ft^3) = \frac{V_U\ (in\text{-}ac/ac) \times A_T\ (ac) \times 43{,}560\ (ft^2/ac)}{12\ (in/ft)}$$

$V_{BMP}$ = 5,743 $ft^3$

Notes:

# Whitewater Watershed

BMP Design Flow Rate, $Q_{BMP}$ (Rev. 06-2014)

Legend: Required Entries / Calculated Cells

| | | | |
|---|---|---|---|
| Company Name | Joseph E Bonadiman & Assoc, Inc. | Date | 9/7/2023 |
| Designed by | JTS | County/City Case No | DR 223-7008 |
| Company Project Number/Name | Brown Strauss Steel | | |
| Drainage Area Number/Name | DMA-3 | | |

Enter the Area Tributary to this Feature ($A_{TRIB}$) $A_{TRIB}$ = 4.52 acres

## Determine the Impervious Area Ratio

Determine the Impervious Area within $A_{TRIB}$ ($A_{IMP}$) $A_{IMP}$ = 4.48 acres

Calculate Impervious Area Ratio ($I_f$) $I_f$ = 0.99

$I_f = A_{IMP}/A_{TRIB}$

## Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C_{BMP} = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$ $C_{BMP}$ = 0.88

## BMP Design Flow Rate

$Q_{BMP} = C_{BMP} \times I \times A_{TRIB}$ $Q_{BMP}$ = 0.79 $ft^3/s$

I = Design Rainfall Intensity, 0.2 in/hr

Notes:

# Whitewater Watershed

BMP Design Volume, $V_{BMP}$ (Rev. 06-2014)

Legend: Required Entries / Calculated Cells

| | | | |
|---|---|---|---|
| Company Name | Jospeh E. Bonadiman & Associates, Inc | Date | 3/8/2023 |
| Designed by | JTS | County/City Case No | |
| Company Project Number/Name | 225047 | | |
| Drainage Area Number/Name | DA-4 | | |

Enter the Area Tributary to this Feature ($A_{TRIB}$) $A_{TRIB}$ = 0.65 acres

## Determine the Impervious Area Ratio

Determine the Impervious Area within $A_{TRIB}$ ($A_{IMP}$) $A_{IMP}$ = 0.09 acres

Calculate Impervious Area Ratio ($I_f$) $I_f$ = 0.14

$I_f = A_{IMP}/A_{TRIB}$

## Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C_{BMP} = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$ $C_{BMP}$ = 0.13

## Determine Design Storage Volume, $V_{BMP}$

Calculate $V_U$, the 80% Unit Storage Volume $V_U = 0.40 \times C_{BMP}$ $V_u$ = 0.05 (in*ac)/ac

Calculate the design storage volume of the BMP, $V_{BMP}$.

$$V_{BMP}\ (ft^3) = \frac{V_U\ (in\text{-}ac/ac) \times A_T\ (ac) \times 43{,}560\ (ft^2/ac)}{12\ (in/ft)}$$

$V_{BMP}$ = 118 $ft^3$

Notes:

# *Summary Sheet:*

The size of the stormwater retention/detention chamber volume contains the developed condition hydrograph volumes for a 100-yr, 3-hr storm event, per City of Banning Ordinance No. 1415, Section 6, 1.9698 ac-ft (85,804 cu ft) which included the DCV 15,022 cu-ft. The retention capacity is 2.2472 ac-ft (97,890 cu-ft). The total capacity is 2.9640 ac-ft (129,110 cu-ft) which provides volume for buffering peak storm flows.

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
Study date 03/02/23 File: DEVHYD3100.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
---

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
100-YEAR STORM
BY: JTS DATE: 03-02-23
---
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.96 | 13.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.23 | 31.82 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.960(In)
Area Averaged 100-Year Rainfall = 2.230(In)

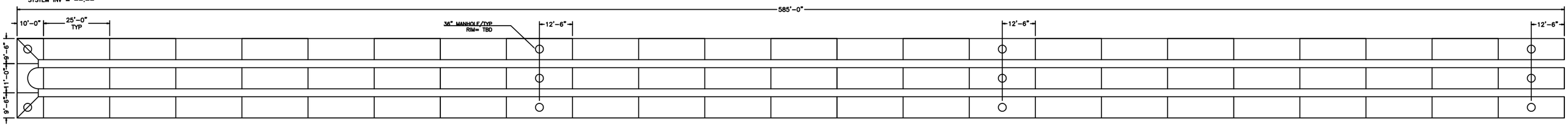
Point rain (area averaged) = 2.230(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.230(In)

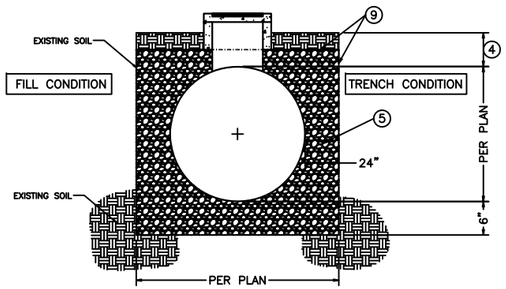
Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
   14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  46.6      0.605     0.159        0.519       1.000      0.519
                                                 Sum (F) =   0.519
Area averaged mean soil loss (F) (In/Hr) =  0.519
Minimum soil loss rate ((In/Hr)) =  0.259
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     1.30      0.348       (  0.519)       0.090        0.258
    2   0.17     1.30      0.348       (  0.519)       0.090        0.258
    3   0.25     1.10      0.294       (  0.519)       0.076        0.218
    4   0.33     1.50      0.401       (  0.519)       0.104        0.297
    5   0.42     1.50      0.401       (  0.519)       0.104        0.297
    6   0.50     1.80      0.482       (  0.519)       0.125        0.357
    7   0.58     1.50      0.401       (  0.519)       0.104        0.297
    8   0.67     1.80      0.482       (  0.519)       0.125        0.357
    9   0.75     1.80      0.482       (  0.519)       0.125        0.357
   10   0.83     1.50      0.401       (  0.519)       0.104        0.297
   11   0.92     1.60      0.428       (  0.519)       0.111        0.317
   12   1.00     1.80      0.482       (  0.519)       0.125        0.357
   13   1.08     2.20      0.589       (  0.519)       0.152        0.436
   14   1.17     2.20      0.589       (  0.519)       0.152        0.436
   15   1.25     2.20      0.589       (  0.519)       0.152        0.436
   16   1.33     2.00      0.535       (  0.519)       0.139        0.397
   17   1.42     2.60      0.696       (  0.519)       0.180        0.516
   18   1.50     2.70      0.722       (  0.519)       0.187        0.535
   19   1.58     2.40      0.642       (  0.519)       0.166        0.476
   20   1.67     2.70      0.722       (  0.519)       0.187        0.535
   21   1.75     3.30      0.883       (  0.519)       0.229        0.654
   22   1.83     3.10      0.830       (  0.519)       0.215        0.615
   23   1.92     2.90      0.776       (  0.519)       0.201        0.575
   24   2.00     3.00      0.803       (  0.519)       0.208        0.595
   25   2.08     3.10      0.830       (  0.519)       0.215        0.615
   26   2.17     4.20      1.124       (  0.519)       0.291        0.833
   27   2.25     5.00      1.338       (  0.519)       0.347        0.991
   28   2.33     3.50      0.937       (  0.519)       0.243        0.694
   29   2.42     6.80      1.820       (  0.519)       0.471        1.348
   30   2.50     7.30      1.953       (  0.519)       0.506        1.447
   31   2.58     8.20      2.194          0.519    (  0.568)        1.675
   32   2.67     5.90      1.579       (  0.519)       0.409        1.170
```

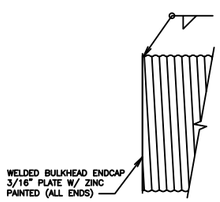
```
33   2.75     2.00      0.535       (  0.519)       0.139        0.397
34   2.83     1.80      0.482       (  0.519)       0.125        0.357
35   2.92     1.80      0.482       (  0.519)       0.125        0.357
36   3.00     0.60      0.161       (  0.519)       0.042        0.119
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    19.9
      Flood volume = Effective rainfall      1.66(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       2.0(Ac.Ft)
      Total soil loss =      0.57(In)
      Total soil loss =     0.682(Ac.Ft)
      Total rainfall =      2.23(In)
      Flood volume =       85804.8 Cubic Feet
      Total soil loss =       29702.2 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     21.085(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        7.5      15.0      22.5      30.0
-------------------------------------------------------------------------
  0+ 5       0.0089      1.30  VQ        |         |         |         |
  0+10       0.0297      3.02  V   Q     |         |         |         |
  0+15       0.0519      3.22  |V  Q     |         |         |         |
  0+20       0.0762      3.53  |V  Q     |         |         |         |
  0+25       0.1042      4.08  | V  Q    |         |         |         |
  0+30       0.1353      4.51  | V   Q   |         |         |         |
  0+35       0.1673      4.65  |  V  Q   |         |         |         |
  0+40       0.1994      4.66  |   V Q   |         |         |         |
  0+45       0.2339      5.02  |   V Q   |         |         |         |
  0+50       0.2669      4.79  |    VQ   |         |         |         |
  0+55       0.2980      4.52  |     Q   |         |         |         |
  1+ 0       0.3309      4.77  |     Q   |         |         |         |
  1+ 5       0.3683      5.43  |      Q  |         |         |         |
  1+10       0.4097      6.02  |       Q |         |         |         |
  1+15       0.4522      6.17  |       QV|         |         |         |
  1+20       0.4938      6.04  |       Q V         |         |         |
  1+25       0.5379      6.40  |       Q V         |         |         |
  1+30       0.5877      7.24  |        Q|V        |         |         |
  1+35       0.6376      7.23  |        Q| V       |         |         |
  1+40       0.6874      7.23  |        Q|  V      |         |         |
  1+45       0.7438      8.18  |         Q    V    |         |         |
  1+50       0.8047      8.85  |         |Q    V   |         |         |
  1+55       0.8640      8.60  |         |Q     V  |         |         |
  2+ 0       0.9222      8.46  |         |Q      V |         |         |
  2+ 5       0.9818      8.65  |         |Q       V|         |         |
  2+10       1.0499      9.89  |         |  Q      |V        |         |
  2+15       1.1337     12.17  |         |     Q   |  V      |         |
  2+20       1.2170     12.09  |         |     Q   |   V     |         |
  2+25       1.3120     13.79  |         |       Q |     V   |         |
  2+30       1.4386     18.38  |         |         |   Q    V|         |
  2+35       1.5838     21.09  |         |         |       Q | V       |
  2+40       1.7255     20.58  |         |         |      Q  |    V    |
  2+45       1.8213     13.91  |         |       Q |         |     V   |
  2+50       1.8766      8.03  |         Q         |         |       V |
  2+55       1.9201      6.32  |       Q |         |         |       V |
  3+ 0       1.9505      4.41  |    Q    |         |         |        V|
  3+ 5       1.9634      1.87  | Q       |         |         |        V|
  3+10       1.9674      0.59  Q         |         |         |        V|
  3+15       1.9691      0.24  Q         |         |         |        V|
  3+20       1.9697      0.09  Q         |         |         |        V|
  3+25       1.9698      0.02  Q         |         |         |         V
-------------------------------------------------------------------------
```

**DESIGN INFORMATION**
MATERIAL FINISH =ALZD TYPE II
PIPE GAUGE = 16
PERFORATED = YES
DIAMETER = 96"
LOADING = H20/H25
SYSTEM INV = --.--




A–A SECTION

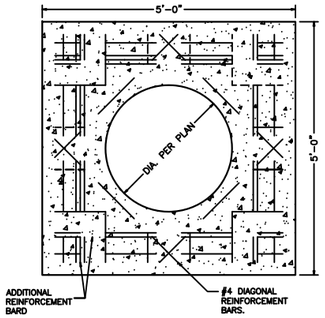



B–B
TYPICAL BULKHEAD

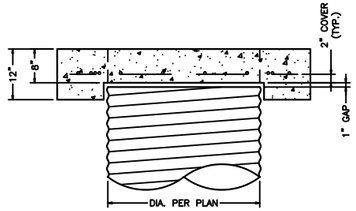
NOTES:
1. RIGID OR FLEXIBLE PAVEMENT.
2. GRANULAR ROAD BASE.
3. NORMAL ROADWAY EMBANKMENT FILL PLACED IN 8" LIFTS AND COMPACTED TO MIN. 90% STANDARD DENSITY PER AASHTO T–99.
4. 12" MIN. FOR DIAMETERS THROUGH 96", 18" MIN. FOR DIAMETERS FROM 102" AND UP. MEASURE FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF PIPE TO TOP OF RIGID PAVEMENT.
5. FREE DRAINING ANGULAR WASHED STONE 3/4" – 2" AROUND PIPE ENVELOPE AS SHOWN OR OTHERWISE NOTED.
6. 5 x 1" CSP GAGE PER AASHTO SECTION12.
7. NOT USED
8. LISTED SPACING CHART IS FOR MULTIPLE PIPE INSTALLATION. FOR SINGLE RUN, THE TRENCH REQUIRES ONLY THE BOTTOM WIDTH OF THE PIPE'S SPAN, PLUS ROOM FOR COMPACTION EQUIPMENT.

| SPACING CHART PER AISI AND NCSPA GUIDELINES | |
|---|---|
| DIAMETER | REQUIRED SPACING |
| UP TO 24" | 12" |
| 24" – 72" | 1/2 PIPE DIA. |
| 72" AND UP | 36" |

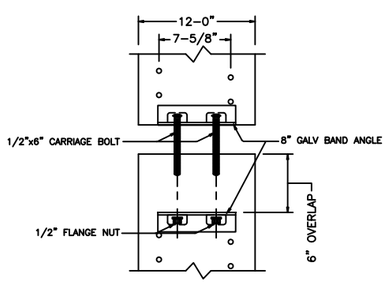
9. 4 oz. NON WOVEN GEOTEXTILE FABRIC.
10. RELATIVELY LOOSE GRANULAR BEDDING ROUGHLY SHAPED TO FIT BOTTOM OF PIPE, 4" TO 6" IN DEPTH. (#57 OR #8 OR OTHER SUITABLE GRANULAR).



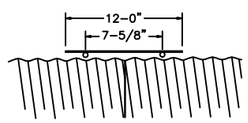

PLAN VIEW
N.T.S.




ACCESS RISER DETAIL
N.T.S.

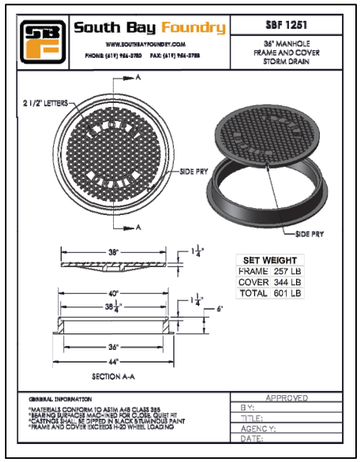



DIMPLE BAND DETAIL
N.T.S.




STANDARD SECTION
N.T.S.

GENERAL NOTES:
1. BANDS ARE FURNISHED AS FOLLOWS:
   12" THRU 48" – 1–PIECE
   54" THRU 96" – 2 PIECE
   102" THRU 144" – 3 PIECE
2. GALV BAND ANGLES ARE ATTACHED WITH SPOT WELDS, RIVETS OR HAND WELDED.
3. DIMMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
4. DIMPLE BANDS FOR ARCHED PIPE ARE THE SAME AS FOR EQUIVALENT ROUND PIPE DIAMETER.




PACIFIC CORRUGATED PIPE CO.®
13680 SLOVER AVENUE FONTANA, CA 92337
800.338.5858 * 909.829.4235
Fx: 909.829.8035
SOCAL@PCPIPE.COM

NOTE:
THE SUITABILITY OF THE INFORMATION PRESENTED FOR USE ON ANY PARTICULAR PROJECT SHOULD BE DETERMINED BY THE ENGINEER RESPONSIBLE FOR THE DESIGN.

PROJECT NAME: BANNING
PROJECT #:

SIGN & DATE TO RELEASE FOR MANUFACTURE (SUBJECT TO PRICE VERIFICATION)
PLANS APPROVED
☐ (AS NOTED) ☐ (W/CHANGES)
DATE SIGNATURE

| REV. | DESCRIPTION | DATE |
|---|---|---|
| 0 | BROWN STRAUSS STEEL | |

DRAWN BY: C.CLARK
SCALE: AS NOTED
DATE: 11/06/23
SHEET NO: 1 OF 1

# Appendix G

AGREEMENTS – CC&RS, COVENANT AND AGREEMENTS, BMP MAINTENANCE AGREEMENTS AND/OR OTHER MECHANISMS FOR ENSURING ONGOING OPERATION, MAINTENANCE, FUNDING AND TRANSFER OF REQUIREMENTS FOR THIS PROJECT-SPECIFIC WQMP

RECORDING REQUESTED BY
AND WHEN RECORDED RETURN TO:

*City of Banning*
*City Clerk*
*P.O. Box 998*
*99 E. Ramsey Street*
*Banning, CA 92220*

EXEMPT FROM RECORDER'S FEES PURSUANT TO GOVERNMENT CODE SECTIONS 6103 AND 27383.

SPACE ABOVE THIS LINE FOR RECORDER'S USE

APN: 540-180-020, 540-180-022, 540-180-026

# STORM WATER MANAGEMENT WQMP/BMP FACILITIES AGREEMENT NO. 2023-0X

City of Banning, Riverside County, California

THIS AGREEMENT, made and entered into this _____ day of _____, 20__, by and between **Brown Strauss, Inc.** hereinafter called the "Landowner", and the City of Banning, California, hereinafter called the "City".

## RECITALS

WHEREAS, the Landowner is the owner of certain real property described as APNs 540-180-020, 022, & 026 as recorded by deed in the land records of Riverside County, California, Map Book 9, Page 44, hereinafter called the "Property" more particularly described in Exhibit "A" legal description attached and made a part by this reference; and

WHEREAS, the Landowner is currently the property owner and has built on and developed the property; and

WHEREAS, the Water Quality Management Plan (WQMP) prepared for Brown Strauss Steel – Banning, hereinafter called the "WQMP", which is expressly made a part hereof and is on file in the City Engineer's Office, as approved by the City, provides for storm water quality treatment within the confines of the property; and

WHEREAS, the City and the Landowner, its successors and assigns, including any homeowners association, agree that the health, safety, and welfare of the residents of the City of Banning, require that on-site storm water management/Best Management Practices (BMP) facilities mentioned in the project's approved WQMP be constructed and maintained (to minimize pollutants in urban runoff) by the Landowner, its successors and assigns, including, but not limited to, any new property owner.

NOW THEREFORE, in consideration of the foregoing recitals, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The on-site storm water management/BMP facilities mentioned above shall be constructed by the Landowner, its successors and assigns, in accordance with the plans and specifications identified in the WQMP.

2. The Landowner, its successors and assigns, shall adequately maintain the storm water management/BMP facilities, including source control BMPs. This includes all pipes and channels built to convey storm water on the property, including catch basin inserts, underground detention ponds, swales and vegetation provided to control the quantity and quality of the storm water. Adequate maintenance is herein defined as good working condition so that these facilities are performing in their design functions.

3. The Landowner, its successors and assigns, shall annually inspect the storm water management/BMP facility mentioned above by March and submit an inspection report annually to the Public Works Department by April 1st of each year. The purpose of the Annual BMP Facility Inspection is to assure safe and proper functioning of the facilities. The inspection shall cover the storm water management BMPs listed in the WQMP such as bioretention basins, underground storage systems, bioswales, catch basins and its filter units, storm drains, etc. Deficiencies shall be noted in the inspection report.

4. The Landowner, its successors and assigns, hereby grant permission to the City, its authorized agents and employees, to enter upon the Property and to inspect the storm water management/BMP facilities whenever the City deems necessary and as required by the City's most current National Pollutant Discharge Elimination System (NPDES) Permit. The purpose of inspection is to follow up on reported deficiencies and/or to respond to citizen complaints, and meet the City's NPDES Permit issued by the State Water Resources Control Board – Colorado River Region No. 7. The City shall provide the Landowner, its successors and assigns, copies of the inspection findings and a directive to commence with the repairs if necessary.

5. In the event the Landowner, its successors and assigns, fails to maintain the storm water management/BMP facilities in good working condition acceptable to the City, the City may enter upon the Property and take whatever steps necessary to correct deficiencies identified in any inspection report and to charge the costs of such repairs to the Landowner, its successors and assigns. This provision shall not be construed to allow the City to erect any structure of permanent nature on the land of the Landowner outside of the easement for the storm water management/BMP facilities. It is expressly understood and agreed that the City is under no obligation to routinely maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the City.

6. The Landowner, its successors and assigns, will perform the work necessary to keep these facilities in good working order as appropriate. The maintenance schedule for the storm water management/BMP facilities (including sediment removal) is outlined in the approved WQMP and the schedule will be followed. In the future, the City of Banning

may adopt an annual Stormwater/NPDES Inspection Fee that would be assessed to the property owner.

7. In the event the City, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner, its successors and assigns, shall reimburse the City upon demand, within thirty (30) days of receipt thereof for all actual costs incurred by the City hereunder. This includes paying the City the NPDES Inspection Fee if the City must perform the Annual BMP Facility Inspection and meet the requirements listed in Item No. 3 above because the property owner failed to do so.

8. This Agreement imposes no liability of any kind whatsoever on the City and the Landowner agrees to hold the City harmless, defend and indemnify from any liability whatsoever in the event the storm water management/BMP facilities fail to operate properly.

9. This Agreement shall be recorded through the County of Riverside, retained by the City of Banning, shall constitute a covenant running with the land, and shall be binding on the Landowner, its administrators, executors, assigns, heirs, and any other successors in interests, including any homeowners association.

WITNESS the following signatures and seals:

OWNER:

By:_____

Name:_____
Please Print

Title:_____

Company Name: Brown Strauss, Inc.

ATTEST:

By:_____ (S e a l)

Name:_____
Please Print

Title:_____
Notary must attach an "All-Purpose Acknowledgement"

CITY OF BANNING:

By:_____

Nate Smith, P.E.
Deputy Director of Public Works/ City Engineer
City of Banning

ATTEST:

By:_____

Caroline Patton
Deputy City Clerk, City of Banning

All signatures on this Agreement on behalf of the Owner must be acknowledged before a Notary Public. In the event that the Owner is a corporation, the President/Vice President and the corporate secretary of the corporation must sign and the corporate seal must be affixed thereto.

# Appendix H

## PHASE 1 ENVIRONMENTAL SITE ASSESSMENT – SUMMARY OF SITE REMEDIATION CONDUCTED AND USE RESTRICTIONS

# Phase I Environmental Site Assessment

**Banning Industrial**

**1219 and 1431 West Lincoln Street**

**Banning, Riverside County, California**

**September 1, 2022**

Terracon Project No. LA227292



**Prepared for:**
Brown Strauss, Inc.
Aurora, Colorado

**Prepared by:**
Terracon Consultants, Inc.
Colton, California

terracon.com

Terracon

Environmental ■ Facilities ■ Geotechnical ■ Materials

September 1, 2022

Brown Strauss, Inc.
2495 Uravan Street
Aurora, Colorado 80011

Attn: Mr. Ryan Secrist
P: (303) 576-6215
E: rsecrist@brownstrauss.com

Re: Phase I Environmental Site Assessment
Banning Industrial
1219 and 1431 West Lincoln Street
Banning, Riverside County, California 92220
(Riverside County Assessor Parcel Numbers: 540-020, 540-180-022, and 540-180-026)
Terracon Project No. LA227292

Dear Mr. Secrist:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Phase I Environmental Site Assessment (ESA) report for the above-referenced site. This assessment was performed in accordance with Agreement for Services associated with the Terracon Proposal No. PLA227292, dated August 2, 2022.

We appreciate the opportunity to be of service to you on this project. In addition to Phase I services, our professionals provide geotechnical, environmental, construction materials, and facilities services on a wide variety of projects locally, regionally and nationally. For more detailed information on all of Terracon's services please visit our website at www.terracon.com. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
**Terracon Consultants, Inc.**

Laura S. Hedman
Staff Geologist

Jennifer S. Van
Environmental Group Manager

Tony P. Mikacich, PG
Senior Geologist / Department Manager I

Attachments

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## APPENDICES

APPENDIX A Exhibit 1 - Topographic Map, Exhibit 2 - Site Diagram

APPENDIX B Site Photographs

APPENDIX C Historical Documentation and User Questionnaire

APPENDIX D Environmental Database Information

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APPENDIX F Description of Terms and Acronyms

# EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) was performed in accordance with Agreement for Services associated with the Terracon Proposal No. PLA227292, dated August 2, 2022, and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The ESA was conducted under the supervision or responsible charge of Jennifer S. Van, Environmental Professional. Sabrina Chantler performed the site reconnaissance on August 11, 2022.

## Findings and Opinions

A summary of findings is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Site Description and Use

The site is located at 1219 and 1431 West Lincoln Street in Banning, Riverside County, California 92220. The site consists of three contiguous parcels of generally vacant land, totaling approximately 14.92-acres, and identified by Riverside County assessor parcel numbers (APNs): 540-020, 540-180-022, and 540-180-026. The site is further improved with a small animal enclosure and utilities. At the time of the site reconnaissance, the site was observed to be unoccupied.

Historical Information

Based on review of the historical information, the site consisted of undeveloped land from as early as 1901, followed by agricultural land activities from at least 1938 until sometime between 1953 and 1961. By 1961, the central and eastern portions of the site appeared graded, and another homestead/dwelling and apparent trailers/containers were visible. By 1989, the homestead/dwelling on the eastern portion of the site appeared to have been removed, followed by the apparent removal of the remaining homestead/dwelling on the western portion of the site, by 1990. Based on the 2002 aerial photograph, apparent containers/trailers were visible throughout the site. By 2006, the containers/trailers appeared to have been removed; however, an apparent container/trailer was visible in the 2016 aerial photograph. Based on the 2012 aerial photograph, an apparent water tank and small animal enclosure were visible, on the southwestern portion of the site. Mr. Michael Baldi, site owner, stated that the animal enclosure was used for cattle (for a brief period of time), which were subsequently removed from the site. At the time of the visual reconnaissance, the container/trailer had been removed from the site, and site appeared generally vacant.

Historically, the site has been used for agricultural activities (orchards), from at least 1938 until sometime between 1953 and 1961, which may include the use of pesticides and herbicides. Most

currently used agricultural chemicals do not persist for extended periods of time in the environment if applied appropriately; however, some agricultural chemicals persist in the environment, especially if misapplied. In addition, structures indicative of potential mixing of pesticides and/or herbicides were not observed onsite in the historical aerial photographs reviewed. In Terracon's experience, the application of herbicides and pesticides to agricultural fields can leave trace amounts of the compounds in the soil and/or groundwater; however, these residual amounts are generally below risk-based screening levels. Pesticide and/or herbicide misuse or vegetative stress were not observed on the site during the site reconnaissance.

The surrounding properties consisted of undeveloped land, with a railroad (Southern Pacific) to the north and an existing road (West Lincoln Street) to the south. By 1938, the surrounding properties appeared as agricultural land, with two apparent homesteads/dwellings to the adjacent south. By 1949, portions of the land, north of the railroad, appeared graded, and two more homesteads/dwellings were visible, on the land to the adjacent south. By 1961, the existing highway to the north (Christopher Columbus Transcontinental Highway/Interstate 10 Freeway) appeared to be in the early stages of development, followed by commercial development (further north), an apparent commercial building developed to the east, and the land to the west appeared graded and vacant. By 1967, the freeway to the north appeared fully developed. Commercial development continued, from the 1980s through the early 2000s, with the development of the existing commercial buildings to the east (various automotive businesses such as California Collision Center, Express Tires & Auto Repair, and precision Auto Service, 1143 West Lincoln Street, and Color Fast Industries, Dicks Tire Mart, Entrada Door Inc., EPD Wearness USA Inc., First Place Powder Coating, 1177 West Lincoln Street); an apparent dwelling/structure to the west; existing commercial/construction buildings developed further southeast (Zimmerman Larry Woodworking and Trench Shoring, 1184 West Lincoln Street); and trailers/containers were visible on the land to the south-southwest. Around 2002, homesteads/dwellings appeared to have been removed from the southeast and west. The site has remained consistent through the present. Recognized environmental conditions (RECs) were not identified in connection with the historical documentation.

Records Review

Selected federal and state environmental regulatory databases as well as responses from state and local regulatory agencies were reviewed. The site was not identified in the regulatory database information.

The remaining listed facilities do not constitute RECs based upon facility characteristics, distance, and/or topographic gradient in relation to the site.

Site Reconnaissance

During the site reconnaissance, Terracon observed an approximately 800-gallon water aboveground storage tank, and a pile of asphalt debris/cuttings (approximately 1-cubic yard). RECs were not identified in connection with the site.

Adjoining Properties

The northern adjoining properties consisted of Southern Pacific railroad, followed by the Christopher Columbus Transcontinental Highway (Interstate 10 Freeway), multi-tenant retail building (1510-1431 West Ramsey Street), and a vacant retail building (1374 West Ramsey Street). The eastern adjoining properties consisted of multi-tenant commercial buildings (1143 West Lincoln Street) and multi-tenant commercial building (1177 West Lincoln Street). West Lincoln Street abutted the site to the south, followed by residential dwellings and vacant land (1222-1476 West Lincoln Street), vacant land (1184 West Lincoln Street) to the southeast, and a residential dwelling (1522 West Lincoln Street) to the southwest. The western adjoining property consisted of vacant land (1541 West Lincoln Street). RECs were not observed with the adjoining properties.

## Significant Data Gaps

Significant data gaps were not identified.

## Conclusions

We have performed a Phase I ESA consistent with the procedures included in ASTM Practice E 1527-13 of the Banning Industrial site, located at 1219 and 1431 West Lincoln Street, Banning, Riverside County, California 92220 (Riverside County Assessor Parcel Numbers: 540-020, 540-180-022, and 540-180-026), the site. RECs or Controlled RECs (CRECs) were not identified in connection with the site.

## Recommendations

Based on the scope of services, limitations, and conclusions of this assessment, Terracon does not recommend additional investigation at this time.

# 1.0 INTRODUCTION

## 1.1 Site Description

| | |
|---|---|
| **Site Name** | Banning Industrial |
| **Site Location/Address** | 1219 and 1431 West Lincoln Street, Banning, Riverside County, California (Riverside County Assessor Parcel Numbers: 540-020, 540-180-022, and 540-180-026) |
| **Land Area** | Consists of an approximately three contiguous parcels totaling approximately 14.92-acres. |
| **Site Improvements** | The site consisted of generally vacant land. |
| **Anticipated Future Site Use** | Redevelopment for commercial use |
| **Reason for the ESA** | Assist the client with acquiring the site. |

The location of the site is depicted on Exhibit 1 of Appendix A, which was reproduced from a portion of the Beaumont, California and Cabazon, California, USGS 7.5-minute series topographic map (2018). The site and adjoining properties are depicted on the Site Diagram, which is included as Exhibit 2 of Appendix A. Acronyms and terms used in this report are described in Appendix F.

## 1.2 Scope of Services

This Phase I ESA was performed in accordance with Agreement for Services associated with the Terracon Proposal No. PLA227292 dated August 2, 2022, and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The purpose of this ESA was to assist the client in developing information to identify RECs in connection with the site as reflected by the scope of this report. This purpose was undertaken through user-provided information, a regulatory database review, historical and physical records review, interviews, including local government inquiries, as applicable, and a visual noninvasive reconnaissance of the site and adjoining properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the applicable sections of the report.

ASTM E1527-13 contains a new definition of "migrate/migration," which refers to “the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface.” By including this explicit reference to migration in ASTM E1527-13, the Standard clarifies that the potential for vapor migration should be addressed as part of a Phase I ESA. This Phase I ESA has considered vapor migration in evaluation of RECs associated with the site.

## 1.3 Standard of Care

This ESA was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

## 1.4 Additional Scope Limitations, ASTM Deviations and Data Gaps

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e. evaluation of the presence of vapors within a building structure), business environmental risk evaluations, or other services not particularly identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder.

An evaluation of the significance of limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services,

regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

## 1.5 Reliance

This ESA report is prepared for the exclusive use and reliance of Brown Strauss, Inc. Use or reliance by any other party is prohibited without the written authorization of Brown Strauss Inc. and Terracon Consultants, Inc. (Terracon).

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and Terracon's Agreement for Services. The limitation of liability defined in the Agreement for Services is the aggregate limit of Terracon's liability to the client and all relying parties.

Continued viability of this report is subject to ASTM E1527-13 Sections 4.6 and 4.8. If the ESA will be used by a different user (third party) than the user for whom the ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-13.

## 1.6 Client Provided Information

Prior to the site visit, Mr. Ryan Secrist, client's representative, was asked to provide the following user questionnaire information as described in ASTM E1527-13 Section 6.

**Client Questionnaire Responses**

| Client Questionnaire Item | Client Did Not Respond | Client's Response | |
|---|---|---|---|
| | | Yes | No |
| Specialized Knowledge or Experience that is material to a REC in connection with the site. | | | X |
| Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site. | | | X |

| Client Questionnaire Item | Client Did Not Respond | Client's Response | |
|---|---|---|---|
| | | Yes | No |
| Actual Knowledge of a Lower Purchase Price because contamination is known or believed to be present at the site. | | | X |
| Commonly Known or Reasonably Ascertainable Information that is material to a REC in connection with the site. | | | X |
| Obvious Indicators of Contamination at the site. | | | X |

Terracon's consideration of the client provided information did not identify RECs. A copy of the questionnaire is included in Appendix C.

## 2.0 PHYSICAL SETTING

| Physical Setting Information | | Source |
|---|---|---|
| **Topography** | | |
| Site Elevation | Approximately 2,370 to 2,410 feet above mean sea level | USGS Topographic Maps; Beaumont, California and Cabazon, California Quadrangles, dated 2018, and *Microsoft Bing* Map Data (2022), www.bing.com/maps (Appendix A) |
| Topographic Gradient | Sloping toward the southeast | |
| Closest Surface Water | Montgomery Creek, is located approximately 1,100 feet southwest of the site. | |
| **Soil Characteristics** | | |
| Soil Type | GyC2: Greenfield sandy loam, 2 to 8 percent slopes, eroded;<br>RaB2: Ramona sandy loam, 2 to 5 percent slopes, eroded. | Riverside County, CA USDA-NRCS Web Soil Survey, issued September 13, 2021, https://websoilsurvey.sc.egov.usda.gov |
| Description | GyC2: Well drained soils. A typical soil profile consists of 0 to 26 inches below ground surface (bgs) sandy loam, 26 to 43 inches bgs fine sandy loam, 43 to 60 inches bgs loam, and 60 to 72 inches bgs stratified loamy sand to sandy loam. The parent material consists of alluvium derived from granite.<br>RaB2: Well drained soils. A typical soil profile consists of 0 to 14 inches bgs sandy loam, 14 to 23 inches bgs fine sandy loam, 23 to 68 inches bgs sandy clay loam, | |

| Physical Setting Information | | Source |
|---|---|---|
| | and 68 to 74 inches bgs gravelly sandy loam. The parent material consists of alluvium derived from granite. | |
| **Geology/Hydrogeology** | | |
| Formation | Older surficial sediments (Qf) | Geologic map of the Beaumont quadrangle, Riverside County, California (Dibblee, T.W. and Minch, J.A.; Dibblee Geological Foundation, 2003); https://ngmdb.usgs.gov/mapview |
| Description | Weakly indurated alluvial fan deposits dissected or partially so; Alluvial fan of the San Gorgonio Pass, sand and gravel of plutonic and gneissic detritus derived from rising San Bernardino mountains to the north, dissected at lower south margins (Quaternary). | |
| Estimated Depth to First Occurrence of Groundwater | Site: No data readily available. Vicinity: Approximately 519 feet bgs as measured in observation wells, located approximately 4,600 feet west of the site (last measured in October 2010). | Department of Water Resources State of California, Water Data Library; San Gorgonio Pass Subbasin Site Code No. 339231N1169081; State Well No. 03S01E08M001S; https://wdl.water.ca.gov |
| *Hydrogeologic Gradient | Not known - may be inferred to be parallel to topographic gradient (primarily to the southeast). | |

* The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

# 3.0 HISTORICAL USE INFORMATION

Terracon reviewed the following historical sources to develop a history of the previous uses of the site and surrounding area, in order to help identify RECs associated with past uses. Copies of selected historical documents are included in Appendix C.

## 3.1 Historical Topographic Maps, Aerial Photographs, Sanborn Maps

Readily available historical USGS topographic maps, selected historical aerial photographs (at approximately 10- to-15-year intervals) were reviewed to evaluate land development and obtain information concerning the history of development on and near the site. Reviewed historical topographic maps and aerial photographs are summarized below.

Historical fire insurance maps produced by the Sanborn Map Company were requested from Environmental Data Resources, Inc. (EDR) to evaluate past uses and relevant characteristics of the site and surrounding properties. EDR provided Sanborn maps were not available.

- Topographic maps:
  - San Jacinto, California; published in **1901** (1:125,000)
  - Banning, California; published in 1943 from **1941** aerial photographs; published in 1956 from **1951** aerial photographs (1:62,500)
  - Banning, California; published in **1948** (1:50,000)
  - Beaumont, California; published in 1953 from **1949** aerial photographs; published in 1972 from **1972** aerial photographs; published in 1988 from **1949** aerial photographs; published in 1996 from **1994** aerial photographs; published in **2012**, **2015**, **2018** (1:24,000)
  - Cabazon, California; published in 1956 from **1951** aerial photographs; published in 1972 from **1972** aerial photographs; published in 1988 from **1985** aerial photographs; published in 1996 from **1994** aerial photographs; published in **2012**, **2015**, **2018** (1:24,000)

- Aerial photographs:
  - USDA, **1938**, **1949**, **1953**, **1961**, **1967**, **1985**, **1989**, and **1990**, 1"=500'
  - USGS, **1975**, 1"=500'
  - USGS/DOQQ, **1996** and **2002**, 1"=500
  - USDA/NAIP, **2006**, **2009**, **2012**, and **2016**, 1"=500'

**Historical Maps and Aerial Photographs**

| Direction | Description |
|---|---|
| Site | Undeveloped land (1901); agricultural land (1938); apparent homesteads/dwellings depicted on the southern portion of the site (1949-1953); the central and eastern portions of the site appeared graded, and another homestead/dwelling and apparent trailers/containers were visible (1961-1985); the homestead/dwelling on the eastern portion of the site appeared to have been removed (1989); the remaining homestead/dwelling on the western portion of the site appeared to have been removed (1990-1996); apparent containers/trailers depicted throughout the site (2002); the containers/trailers appeared to have been removed (2006-2009); an apparent water container and small animal enclosure, located on the southwestern portion of the site (2012); an apparent container/trailer was visible (2016). |
| North | A railroad followed by undeveloped land (1901); agricultural land (1938); portions of the land, north of the railroad, appeared graded (1949-1953); early development of the existing highway, followed by commercial development (further north) (1961); the Christopher Columbus Transcontinental Highway appears fully developed (1967-2016). |
| East | Undeveloped land (1901); agricultural land (1938-1953); an apparent commercial building developed (1961-1967); agricultural activities appeared to have ceased (1975); portions of the land appeared graded (1989-2002); the existing commercial buildings developed (2006-2016). |

| Direction | Description |
|---|---|
| South | An existing road (West Lincoln Street), followed undeveloped land and a road (South 12th Street) (1901); agricultural land and two apparent homesteads/dwellings (1938); two more homesteads/dwellings were visible (1949-1967); existing construction buildings developed further southeast (1975); an existing dwelling developed (1985); trailers/containers were visible on the land to the south-southwest (1989); southeastern homesteads/dwellings appeared to have been removed (2002-2016). |
| West | Undeveloped land (1901); agricultural land (1938-1953); appears graded (1961); an apparent dwelling was visible (1985-1996); the dwelling appeared to have been removed (2002-2016). |

Historically, the site has been used for agricultural activities (orchards), from at least 1938 until sometime between 1953 and 1961, which may include the use of pesticides and herbicides. Most currently used agricultural chemicals do not persist for extended periods of time in the environment if applied appropriately; however, some agricultural chemicals persist in the environment, especially if misapplied. In addition, structures indicative of potential mixing of pesticides and/or herbicides were not observed onsite in the historical aerial photographs reviewed. In Terracon's experience, the application of herbicides and pesticides to agricultural fields can leave trace amounts of the compounds in the soil and/or groundwater; however, these residual amounts are generally below risk-based screening levels. Pesticide and/or herbicide misuse or vegetative stress were not observed on the site during the site reconnaissance.

## 3.2 Historical City Directories

EDR Digital Archive and Haines Criss-Cross Directory city directories used in this study were made available EDR (selected years reviewed: 1971-2017) and were reviewed at approximate five-year intervals, if readily available. West Lincoln Street listings not available prior to 1971. The current street address for the site was identified as 1219. 1431 West Lincoln Street was not identified in the city directories.

**Historical City Directories**

| Direction | Description |
|---|---|
| Site | **1219 West Lincoln Street**: Skare Harlan (1971); Don Cook (1976); Konnie Becerra (1980-1985); no listings (1990-2017).<br>**1431 West Lincoln Street**: no listings (1971-2017). |
| North | Unaddressed highway-no listings |

| Direction | Description |
|---|---|
| East | ***1177 West Lincoln Street***: no listings (1971-2000); Color Fast Industries (2005); Dicks Tire Mart, Entrada Door Inc., EPD Wearness USA Inc., First Place Powder Coating (2010); Entrada Door Inc., EPD Wearness USA Inc., First Place Powder Coating (2014); Entrada Door Inc., EPD Wearness USA Inc., First Place Powder Coating; I-10 Commerce Center SBDO LP (2017).<br>***1143 West Lincoln Street***: Vardanian Armen (1971-1980); no listings (1985); Pearl Vardanian (1990); no listings (1992-2000); "Occupants unknown" (2005); Bell Jeffrey, Belovac, California Collision Ctr, D&S Builders, Down Low Customz, Express Tires & Auto Repair, RTI Industries, Showcase, Tomms Auto Body (2010); Express Tires & Auto Repair, Fastenal, Harrison Air Conditioning, Harrison Contracting, i-10 Commerce Center San Bernardino, Precisions Auto Service, Pulte Homes, RTI Industries, Tomms Auto Body (2014-2017). |
| South | ***1184 West Lincoln Street***: no listings (1971-1990); Stretch Plastics (1992-1995); Zimmerman Larry Woodworking (2000-2005); *Trench Shoring* (2010-2017).<br>**1222 West Lincoln Street**: Residential listings (1971-1995); "Occupant unknown" (2000); no listings (2005-2017).<br>**1380 West Lincoln Street**: no listings (1971); Residential listings (1976-2005); Robles Pipeline Laying Inc, Southern Valley Waterfeatures (2010); Robles Toni, Southern Valley Waterfeatures (2014-2017).<br>**1430 West Lincoln Street**: Residential listings (1971-2017).<br>**1450 West Lincoln Street**: No listings (1971-1995); "Occupant unknown" (2000-2005); Residential listings (2010); "Occupant unknown" (2014), no listings (2017).<br>**1476 West Lincoln Street**: no listings (1971); Residential listings (1976-1980); no listings (1985-1992); Residential listing (1995); no listings (2000-2017).<br>**1522 West Lincoln Street**: Residential listings (1971-1995); no listings (2000); Residential listings (2005-2010); Edwards John P, John Edwards Enterprises (2014-2017). |
| West | Unaddressed vacant land - No listings (1971-2017). |

The above underlined and italicized listings are identified in the regulatory databases and are further discussed in Section 4.1.

## 3.3 Site Ownership / Title Search

Based on a review of information obtained from Texas Environmental Research of Rockwell, Texas, the site consists of APNs: 540-180-020, 540-180-022, and 540-180-026, is currently owned by Baldi Real Estate. The effective date or date indicated on the provided documents as date of data review is reported as November 7, 2018. No ownership reference is made to industrial, manufacturing, or other entities of potential environmental concern during the time period mentioned.

## 3.4 Environmental Liens and Activity and Use Limitations

At the direction of the client, performance of a review of environmental liens search was included as part of the scope of services for which Terracon engaged Texas Environmental Research of Rockwell, Texas. Based on a review of the title provider's research, environmental liens were not identified associate with the site. In addition, the EDR regulatory database report included a review of both Federal and State Engineering Control (EC) and Institutional Control (IC) databases. Based on a review of the database report, the site was not listed on the EC or IC databases.

## 3.5 Interviews Regarding Current and Historical Site Uses

The following individual was interviewed regarding the current and historical use of the site.

**Interviewee**

| Interviewer | Name / Phone # | Title | Date/Time |
|---|---|---|---|
| Ms. Laura S. Hedman | Mr. Michael Baldi / (951) 845-9521 | Site Owner, Baldi Real Estate | August 23, 2022 / Approximately 10:30 a.m. |

Terracon interviewed Mr. Michael Baldi, site owner (Baldi Real Estate), telephonically (post site reconnaissance). Mr. Baldi indicated that the site has been in the family for over 30 years, and during that time, the site has been generally vacant, and has remained consistent through the present, with the exception of a small animal enclosure, used briefly for cattle. Mr. Baldi stated that he was unaware of any on-site USTs, ASTs, wells, or septic tanks. Additionally, Mr. Baldi indicated that he was not aware of the following:

- Pending environmental litigation
- Threatened environmental litigation
- Past environmental litigation
- Possible violations of environmental laws
- Possible environmental liability
- Any potential environmental concerns

## 3.6 Prior Report Review

Terracon requested the client provide any previous environmental reports, permits, registrations, and geotechnical reports they are aware of for the site. Previous reports were not provided by the client to Terracon for review.

# 4.0 RECORDS REVIEW

Regulatory database information was provided by EDR, a contract information services company. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated. The scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the topographic gradient in relation to the site. As stated previously, the groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and the depth to the soil/bedrock interface. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

## 4.1 Federal and State/Tribal Databases

Listed below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definition, descriptions, and the database search report are included in Appendix D.

**Federal Databases**

| Database | Description | Distance (miles) | Listings |
|---|---|---|---|
| CERCLIS (SEMS) | Comprehensive Environmental Response, Compensation, & Liability Information System | 0.5 | 0 |
| CERCLIS / NFRAP (SEMS ARCHIVE) | Comprehensive Environmental Response, Compensation, & Liability Information System/No Further Remedial Action Planned | 0.5 | 0 |
| ERNS | Emergency Response Notification System | Site | 0 |
| IC / EC | Institutional Control/Engineering Control | Site | 0 |
| NPL | National Priorities List | 1.0 | 0 |
| NPL (Delisted) | National Priorities Delisted List | 0.5 | 0 |
| RCRA CORRACTS/ TSD | RCRA Corrective Action Activity | 1.0 | 0 |
| RCRA Generators | Resource Conservation and Recovery Act | Site and adjoining properties | 3 |
| RCRA NonGen / NLR | RCRA- Non-Generator / No Longer Regulated | 0.25 | 16 |

| Database | Description | Distance (miles) | Listings |
|---|---|---|---|
| RCRA Non-CORRACTS/ TSD | RCRA Non-Corrective Action Activity | 0.5 | 0 |

## State/Tribal Databases

| Database | Description | Distance (miles) | Listings |
|---|---|---|---|
| AST | Aboveground Storage Tank Facilities | Site and adjoining properties | 0 |
| CALSITES | CalSites Database | 1.0 | 0 |
| CALSITES (AWP) | Active Annual Workplan Sites | 1.0 | 0 |
| CERS | California Environmental Reporting System | Site | 0 |
| CERS HAZ WASTE | California Environmental Reporting System Hazardous Waste | 0.25 | 8 |
| CORTESE | Cortese" Hazardous Waste & Substance Site List | 0.5 | 8 |
| DRYCLEANERS | Cleaner Facilities | 0.25 | 1 |
| EDR MGP | EDR Proprietary Manufactured Gas Plants | 1.0 | 1 |
| ENVIROSTOR | Envirostor Database | 1.0 | 4 |
| HIST CORTESE | Hazardous Waste and Substance Site List | 0.5 | 7 |
| HIST UST | Hazardous Substance Storage Container Database | 0.25 | 1 |
| LUST | Leaking Underground Storage Tanks | 0.5 | 14 |
| SWEEPS UST | Statewide Environmental Evaluation Planning System Underground Storage Tank | 0.25 | 1 |
| SWF/LF | Solid Waste Facilities/Landfills | 0.5 | 0 |
| UST | Underground Storage Tank Facilities | Site and adjoining properties | 0 |
| VCP | Voluntary Cleanup Program | 0.5 | 0 |

In addition to the above ASTM-required listings, Terracon reviewed other federal, state, local, and proprietary databases provided by the database firm. A list of the additional reviewed databases is included in the regulatory database report included in Appendix D.

The site was not listed in the regulatory database report.

The following table summarizes the site-specific information provided by the database and/or gathered by this office for identified facilities. Facilities within 500 feet of the site are listed in order of proximity to the site. Additional discussion for selected facilities follows the summary table.

**Listed Facilities**

| Facility Name and Location | Estimated Distance / Direction/Gradient | Database Listings | Is a REC, CREC, or HREC to the Site |
|---|---|---|---|
| Poison Spyder Customs, Inc<br>1177 West Lincoln Street (Suite 100) | Adjoining / East / Cross-gradient | RCRA-NonGen/NLR | No, discussed below |
| Tom Malloy Corp dba Trench Shoring<br>1184 West Lincoln Street | 65 feet / South-southeast / Down-gradient | RCRA-NonGen/NLR | No, based on status, depth to groundwater, and topographic down-gradient position |
| Class Acts Autobody Inc<br>1143 West Lincoln Street (Suites 9-10) | 65 feet / East / Cross-gradient | RCRA-NonGen/NLR | No, based on status, depth to groundwater, and topographic cross-gradient position |
| Ochoa Motorsports LLC<br>1143 West Lincoln Street (Suite 13) | | | |
| Lawrence Equipment Banning<br>1879 West Lincoln Street | 490 feet / West / Cross-gradient | CERS HAZ Waste, RCRA-NonGen/NLR | No, based on status, depth to groundwater, distance, and topographic cross-gradient position |

Poison Spyder Customs, Inc. (1177 West Lincoln Street (Suite 100)

The above listed facility (vehicle bumper and vehicle exterior accessories manufacturer), identified to the adjacent east, and in a topographic cross-gradient position relative to the site, was identified in the RCRA Non-Generator/No Longer Regulated (NonGen/NLR) regulatory database. The database indicated that Poison Spyder Customs, Inc. operated under EPA ID No. CAC003022297, dated 2019, as a hardware manufacturer, with a current record, and as a non-generator of regulated hazardous waste. No violations were reported in the database. Based on review of the database, absence of release and violations, depth to groundwater, and topographic cross-gradient position relative to the site, the Poison Spyder Customs, Inc. listing does not represent a REC.

The remaining facilities listed in the database report do not appear to represent RECs to the site at this time based upon regulatory status, apparent topographic gradient, and/or distance from the site.

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The report listed six facilities in the

unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment; however, none of these facilities were identified as the site or adjacent properties. These facilities are listed in the database report in Appendix D.

## 4.2 Local Agency Inquiries

| Agency Contacted/ Contact Method | Response |
|---|---|
| County of Riverside, Department of Environmental Health (DEH) / Email: DEHRecordsMgmt@rivco.org | According to the DEH, no records were found associated with the site. |
| South Coast Air Quality Management District (SCAQMD) / online portal: http://www.aqmd.gov/nav/online-services/public-records; SCAQMD Facility Information Detail (F.I.N.D.), online database: F.I.N.D. (aqmd.gov) | According to the SCAQMD, no records were found associated with the site. Additionally, based on an online search of the SCAQMD F.I.N.D. database, no records were found associated with the site. |
| Santa Ana Regional Water Quality Control Board (RWQCB) / Email: filereview8@waterboards.ca.gov; State Water Resources Control Board; GeoTracker online portal: http://geotracker.waterboards.ca.gov | According to the RWQCB, no records were found associated with the site. Additionally, based on an online search of the GeoTracker online portal, no records were found associated with the site. |
| Department of Toxic Substances Control (DTSC) / Email: pubreqact@dtsc.ca.gov; DTSC online EnviroStor Database, www.envirostor.dtsc.ca.gov DTSC online Hazardous Waste Tracking System (HWTS) Database, https://hwts.dtsc.ca.gov | According to Tee Xiong with the Department of Toxic Substances Control, records were not identified for the site addresses. According to the DTSC online EnviroStor and HWTS databases, no records were found associated with the site. |
| Riverside County Building and Safety/ by email https://www.rctlma.org/building/Records-Request/OnSubmit/3258 | According to Sara at the Riverside Building and Safety, records were not identified for the site addresses. |
| Riverside County Land Use/Water Resources Department / by email landuserecords@rivco.org | According to the Land Use Department, no records were found associated with the site. |

| Agency Contacted/ Contact Method | Response |
|---|---|
| City of Banning City Clerk/ by online https://city-of-banning.nextrequest.com | According to the city of Banning City Clerk the following records were identified;<br>- 05/02/1985: 1219 West Lincoln Street, building permit for electric service.<br>- 09/25/1989: 1431 West Lincoln Street, building permit, for driveway/curb; plumbing permit for house sewer system. |

### 4.3 Local Area Knowledge

Based on a review of the California Department of Conservation, Geologic Energy Management Division well finder website (CalGEM GIS), the site is not identified within an oil field and there are no active or plugged oil production wells located at the site or adjoining properties.

Terracon researched on-line at the State Resources Water Control Board (SRWCB) GeoTracker database – Land Disposal Sites and landfills were not identified on-site or in the site vicinity.

## 5.0 SITE RECONNAISSANCE

### 5.1 General Site Information

Information contained in this section is based on a visual reconnaissance conducted while walking through the site and the accessible interior areas of structures, if any, located on the site. The site and adjoining properties are depicted on the Site Diagram, which is included in Exhibit 2 of Appendix A. Photo documentation of the site at the time of the visual reconnaissance is provided in Appendix B. Credentials of the individuals planning and conducting the site visit are included in Appendix E.

**General Site Information**

| | |
|---|---|
| **Site Reconnaissance** | |
| Field Personnel | Sabrina Chantler |
| Reconnaissance Date | August 11, 2022 |
| Weather Conditions | Sunny, 90° F |
| Site Contact/Title | Mr. Michael Baldi / Site Owner |
| **Site / Vicinity Utilities** | |
| Drinking Water | City of Banning |
| Wastewater | City of Banning |
| Electric | Southern California Edison (SCE) |

| Site Reconnaissance | |
|---|---|
| Natural Gas | Southern California Gas Company (SoCalGas) |

## 5.2 Overview of Current Site Occupants and Site Operations

The site consisted of an approximately 14.92-acre parcel of vacant grassy land. The site was observed to be unoccupied.

## 5.3 Site Observations

The following table summarizes site observations and interviews. Affirmative responses (designated by an "X") are discussed in more detail following the table.

**Site Characteristics**

| Category | Item or Feature | Observed or Identified |
|---|---|---|
| Site Operations, Processes, and Equipment | Emergency generators | |
| | Elevators | |
| | Air compressors | |
| | Hydraulic lifts | |
| | Dry cleaning | |
| | Photo processing | |
| | Ventilation hoods and/or incinerators | |
| | Waste treatment systems and/or water treatment systems | |
| | Heating and/or cooling systems | |
| | Paint booths | |
| | Sub-grade mechanic pits | |
| | Wash-down areas or carwashes | |
| | Pesticide/herbicide production or storage | |
| | Printing operations | |
| | Metal finishing (e.g., electroplating, chrome plating, galvanizing, etc.) | |
| | Salvage operations | |
| | Oil, gas or mineral production | |
| | Other processes or equipment | |
| Aboveground Chemical or Waste Storage | Aboveground storage tanks | X |
| | Drums, barrels and/or containers ≥ 5 gallons | |
| | MSDS or SDS | |

| Category | Item or Feature | Observed or Identified |
|---|---|---|
| Underground Chemical or Waste Storage, Drainage or Collection Systems | Underground storage tanks or ancillary UST equipment | |
| | Sumps, cisterns, French drains, catch basins and/or dry wells | |
| | Grease traps | |
| | Septic tanks and/or leach fields | |
| | Oil/water separators, clarifiers, sand traps, triple traps, interceptors | |
| | Pipeline markers | |
| | Interior floor drains | |
| Electrical Transformers/ PCBs | Transformers and/or capacitors | |
| | Other equipment | |
| Releases or Potential Releases | Stressed vegetation | |
| | Stained soil | |
| | Stained pavement or similar surface | |
| | Leachate and/or waste seeps | |
| | Trash, debris and/or other waste materials | |
| | Dumping or disposal areas | |
| | Construction/demolition debris and/or dumped fill dirt | X |
| | Surface water discoloration, odor, sheen, and/or free floating product | |
| | Strong, pungent or noxious odors | |
| | Exterior pipe discharges and/or other effluent discharges | |
| Other Notable Site Features | Surface water bodies | |
| | Quarries or pits | |
| | Wastewater lagoons | |
| | Wells | |

## Aboveground Chemical or Waste Storage

Aboveground storage tanks

During the site reconnaissance, Terracon observed an apparent approximately 800-gallon capacity water container, located on the southwestern corner of the site. No evidence of chemical waste disposal, noxious odors, or other indications of releases were observed near the vicinity of the water container. Based on visual observations, the water container does not constitute a REC to the site.

### Releases or Potential Releases

Construction/demolition debris and/or dumped fill dirt

At the time of the site reconnaissance, Terracon observed a pile of asphalt debris/cuttings (approximately 1-cubic yard), located on the southern portion of the site. No evidence of chemical waste disposal, noxious odors, or other indications of releases were observed near the vicinity of the asphalt debris pile. Based on visual observations, the asphalt debris pile does not constitute a REC to the site.

## 6.0 ADJOINING PROPERTY RECONNAISSANCE

Visual observations of adjoining properties (from site boundaries) are summarized below.

**Adjoining Properties**

| Direction | Description |
|---|---|
| North | The northern adjoining properties consisted of a Southern Pacific railroad, followed by the Christopher Columbus Transcontinental Highway, multi-tenant retail building (1510-1431 West Ramsey Street), and a vacant retail building (1374 West Ramsey Street). |
| East | The eastern adjoining properties consisted of multi-tenant commercial buildings (1143 West Lincoln Street) and multi-tenant commercial building (1177 West Lincoln Street). |
| South | The southern adjoining properties consisted of West Lincoln Street, followed by residential dwellings and vacant land (1222-1476 West Lincoln Street), vacant land (1184 West Lincoln Street) to the southeast, and a residential dwelling (1522 West Lincoln Street) to the southwest. |
| West | The western adjoining property consists of vacant land (1541 West Lincoln Street). |

RECs were not observed with the adjoining properties.

## 7.0 ADDITIONAL SERVICES

Per the agreed scope of services specified in the proposal, additional services (e.g. asbestos sampling, lead-based paint sampling, wetlands evaluation, lead in drinking water testing, radon testing, vapor encroachment screening, etc.) were not conducted.

# 8.0 DECLARATION

I, Jennifer S. Van, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Jennifer S. Van
Environmental Group Manager

# Appendix I

## PROJECT-SPECIFIC WQMP SUMMARY DATA FORM

# Project-Specific WQMP Summary Data Form

| Applicant Information | |
|---|---|
| **Name and Title** | Estes Express Lines C/O: Kevin Fitz |
| **Company** | Estes Express Lines |
| **Phone** | (804) 353- 1900 |
| **Email** | kfitz@estes-express.com |
| **Project Information** | |
| **Project Name** (as shown on project application/project-specific WQMP) | Estes Banning Truck Terminal |
| **Street Address** | Barbour Street |
| **Nearest Cross Streets** | S Hathaway Street |
| **Municipality** (City or Unincorporated County) | City of Banning (Riverside County, CA) |
| **Zip Code** | 92220 |
| **Tract Number(s) and/or Assessor Parcel Number(s)** | 532-130-008-8 |
| **Other** (other information to help identify location of project) | |

| **Indicate type of project.** | **Priority Development Projects (Use an "X" in cell preceding project type):** | |
|---|---|---|
| | | SF hillside residence; impervious area ≥ 10,000 sq. ft.; Slope ≥ 25% |
| | | SF hillside residence; impervious area ≥ 10,000 sq. ft.; Slope ≥ 10% & erosive soils |
| | | Commercial or Industrial ≥ 100,000 sq. ft. |
| | | Automotive repair shop |
| | | Retail Gasoline Outlet disturbing > 5,000 sq. ft. |
| | | Restaurant disturbing > 5,000 sq. ft. |
| | | Home subdivision ≥ 10 housing units |
| | | Parking lot ≥ 5,000 sq. ft. or ≥ 25 parking spaces |

| | |
|---|---|
| **Date Project-Specific WQMP Submitted** | July 2019 |
| **Size of Project Area** (nearest 0.1 acre) | 39.07 Acres |
| **Will the project replace more than 50% of the impervious surfaces on an existing developed site?** | No |
| **Project Area managed with LID/Site Design BMPs (nearest 0.1 acre)** | 39.07 Acres |
| **Are Treatment Control BMPs required?** | Yes |
| **Is the project subject to onsite retention by ordinance or policy?** | Yes |
| **Did the project meet the 100% LID/Site Design Measurable Goal?** | Yes |
| **Name of the entity that will implement, operate, and maintain the post-construction BMPs** | Estes Express Lines |
| **Contact Name** | Kevin Fitz |
| **Street or Mailing Address** | 3901 W. Broad St. |
| **City** | Richmond |
| **Zip Code** | 23230 |
| **Phone** | (804) 353-1900 |
| **Space Below for Use by City/County Staff Only** | |
| **Preceding Information Verified by** (consistent with information in project-specific WQMP) | **Name:** **Date:** |
| **Date Project-Specific WQMP Approved:** | |
| **Data Entered by** | **Name:** **Date:** |

| | |
|---|---|
| **Other Comments** | |

# Preliminary
# Hydrology Study & Drainage Analysis

## Brown Strauss Steel

West Lincoln Street
City of Banning, CA 92220
APN 532-130-008

**Prepared For:**

Bremco Construction
3470 E. Spring St.
Long Beach, CA 90806-2430

Telephone
(562) 595-4687

**Prepared By:**

e Joseph E. Bonadiman & Associates, Inc.
234 North Arrowhead Avenue
San Bernardino, CA 92408
Telephone: (909) 885-3806
Fax: (909) 381-1721
www.bonadiman.com

November 2023



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# Exhibits


| Exhibit | No. |
|---|---|
| Project Watershed – Aerial Photo | A |
| Project Watershed – USGS Quadrangle | B |
| FEMA Floodplain Maps | C |
| Riverside County Hydrology Manual Isohyetal Maps | D |
| Watershed Losses | E |
| Watershed Hydrologic Soil Groups | |
| Watershed Cover Type & Impervious Cover | |
| NRCS Soils Data | |
| Existing On-Site Hydrologic Conditions Study Map | F |
| Developed On-site Hydrologic Conditions Study Map | G |

# Attachments


| Attachment | No. |
|---|---|
| Existing On-Site Conditions; 10-Year & 100-Year Rational Method | 1 |
| Existing On-Site Conditions; 2, 5, 10, & 100-Year Unit Hydrograph | 2 |
| Developed On-Site Conditions; 10-Year & 100-Year Rational Method | 3 |
| Developed On-site Conditions; On-Site 2, 5, 10, & 100-Year Unit Hydrograph | 4 |
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| Hydraulic Calculations | 6 |
| Parkway Culvert Capacity Calculations | |
| Underground Chamber Sizing Calculations | |
| Catch Basin Capacity Charts | |

# A. Introduction

## 1.1 Purpose & Scope

The following Hydrology & Hydraulics Report has been prepared for the development of the Brown Strauss Steel faculty in the City of Banning, CA to satisfy City of Banning and Riverside County Flood Control & Water Conservation District (RCFCWCD) hydrology study requirements for developments of this type.

**The scope of this Study is as follows:**

- Identification of floodplain(s) impacting the site.
- Identification of offsite (tributary) drainage areas and calculation of offsite (tributary) peak flows impacting the project site.
- Identification of existing conditions on-site drainage areas and calculation of peak flow rates and runoff volumes for these areas.
- Identification of developed conditions on-site drainage areas and calculation of peak flow rates and runoff volumes for these areas.
- Sizing of on-site detention/retention facilities to provide reduction in peak flows and runoff volumes pursuant to City of Banning and Riverside County requirements.
- Summary of Findings & Conclusion

## 1.2 Project Overview

The proposed project entails the construction of a steel yard on an undeveloped 14.27 acre property on the north side of Lincoln Street, in the City of Banning. The project site is located to the south of Interstate 10, approximately 0.25 miles west of South 8th Street, south of the railroad tracks. To the south and west is mostly undeveloped land. To the east is an industrial development consisting of three buildings and parking lots. Refer to Exhibit "A" for an aerial photo of the site and surrounding area. Refer to Exhibit "B" for an overlay of the site on the applicable USGS Quadrangle Map.



Site Location

## 1.1 Off-Site (Tributary) Drainage Areas

To the north of the project site is the A.T.S.F. railroad, consisting of a limited drainage tributary with elevated tracks on earthen berms, running east/west. Flows originating along the south of the A.T.S.F. railroad berms are caried to the east via existing earthen swales within the railroad right-of-way. Therefore, there are no significant offsite flows impacting the site.

## 1.2 Existing Conditions On-Site Areas

The existing on-site project area is generally flat, sloping to the southeast. The site is generally covered with native grass and weeds. The site sheet flows to the southeast discharging along Westward Avenue, where flow continues to the east. Some features from past use are present.

## 1.3 References

The following documents have been made part of this report by reference:

1.) Riverside County Flood Control & Water Conservation District (RCFCWCD) Hydrology Manual, April 1978.

2.) Site plans provided to Joseph E. Bonadiman & Associates, Inc. by Vertrees A & E, January 2023.

3.) Preliminary Grading Plan prepared by Joseph E. Bonadiman & Associates, Inc., February 2023.

# B. Methodology

## 1.1 General Methodology

The requirements and recommendations found in the Riverside County Hydrology Manual (April 1978) provided by the Riverside County Flood Control & Water Conservation District was used as the basis for the methodology and calculations found in this Study. Off-site calculations were performed for the 10-year, 1-hour, and 100-year, 1-hour storms using Rational Method using the CivilDesign® RRIV program. On-site calculations were performed for the 10-year, 1-hour and 100-year, 1-hour storms using the Rational Method using the CivilDesign® RRIV program, and for the 1, 3, 6, and 24-hour durations of the 2, 5, 10, and 100-year storms using the Unit Hydrograph Method using the CivilDesign® UNRIV program for drainage areas larger than one square mile and/or for areas for which determination of both peak flow rates and runoff volumes were required.

For existing conditions AMC I was assumed for the 2 & 5-year storm and AMC II for 10 & 100 year storm. For developed conditions AMC I was assumed for the 2 & 5-year storm, AMC II for 10 and AMC III for the 100 years storm.

Pursuant to City of Banning Ordinance No. 1415, Section 6, on-site retention of the entire calculated developed conditions 100-year, 3-hour volume is required. The County of Riverside policy is to mitigate developed peak flows for all storm events up to and including the 10-year, 24-hour event to less or equal to that of the existing condition.

## 1.2 Geographic Information System (GIS) Data

Available Geographic Information System (GIS) data was utilized for this report, as follows:

- Riverside County parcel line and street centerline shapefile data was used for verification of offsite/adjacent properties and streets in the vicinity of the project site.
- Google Earth imagery was used for verification of topographic features and identified low flows (see Exhibit "A").
- A Digital Elevation Model (DEM) of the National Elevation Dataset (NED) provided by USGS was used to generate the 20' topographic contours used for the tributary drainage areas shown in this report. Digital Raster Graphics (DRGs) of USGS Quadrangles provide by CASIL were also used to verify elevations, blue line streams, and other topographical features (see Exhibit "B").

## 1.3 Sources of Topography

Mapping of existing conditions were established by 1-foot contour intervals, provided by Anacal Engineering Company per ALTA survey dated November 30, 2022 and AutoCAD file provided by client.

## 1.4 FEMA Floodplain

Per FEMA Flood Insurance Rate Map (FIRM) Panel No. 06065C0817G (effective date: August 28, 2008), the project site and study watershed lie within an unshaded Zone "X" floodplain. Unshaded Zone "X" is defined as "areas determined to be outside the annual 2% chance floodplain).

Refer to Exhibit "C" for surrounding area FIRM map used in this report.

## 1.5 Watershed Precipitation

Precipitation values used in this report were obtained from the NOAA Atlas II precipitation maps included in the Riverside County Hydrology Manual, and are tabulated as follows:

**Table 1** – Rational Precipitation Values Summary

| STORM | PRECIPITATION (IN) |
|---|---|
| 10-YEAR, 1-HOUR | 0.89 |
| 100-YEAR, 1-HOUR | 1.32 |

**Table 2** – Unit Hydrograph Precipitation Values Summary

| STORM | PRECIPITATION (IN) |
|---|---|
| 2-YEAR, 1-HOUR | 0.56 |
| 100-YEAR, 1-HOUR | 1.28 |
| 2-YEAR, 3-HOUR | 0.96 |
| 100-YEAR, 3-HOUR | 2.23 |
| 2-YEAR, 6-HOUR | 1.42 |
| 100-YEAR, 6-HOUR | 3.15 |
| 2-YEAR, 24-HOUR | 2.65 |
| 100-YEAR, 24-HOUR | 6.95 |

Based on the Slope of the Intensity Duration Curve map found in the Hydrology Manual, a Slope of the Intensity Duration Curve of 0.53 was used.

Refer to Exhibits "D" for the runoff index number, percent impervious, hydrologic soils groups and land cover classification/quality used in this report.

## 1.6 Watershed Losses

Soil types used in this report were obtained from the Natural Resources Conservation Service (NRCS) via Custom Soil Resource Report for Western Riverside Area, California. Impervious percentages, pervious cover types, and SCS Curve Numbers were obtained from Plates C.2, D-5.5, and D5.6 included in the Riverside Hydrology Manual.

Per the NRCS soils group map, the study watershed is composed of Type "A" and Type "C" soil. The undeveloped project site area has an impervious percentage of 0% (per Plate D5.6 of the Hydrology Manual) and a pervious cover of "Grass, Annual or Perennial, Fair Cover" per Plates C-2 and D5.5 of the Hydrology Manual and field investigation (February 2023) of the project site. Per the Riverside County Hydrology Manual, Plate D-5.5., the SCS Curve Number (AMC II) and percent impervious used within this report are summarized in the table below.

**Table 3** –Soil Loss Rates

| COVER TYPE | SOIL TYPE | QUALITY OF COVER | SCS CURVE NO. (AMC II) |
|---|---|---|---|
| GRASS, ANNUAL OR PERENNIAL | A | FAIR | 50 |
| | C | FAIR | 79 |
| RESIDENTIAL OR COMMERCIAL LANDSCAPING | A | GOOD | 32 |
| | C | GOOD | 69 |

Refer to Exhibits "E" for the runoff index number, percent impervious, hydrologic soils groups and land cover classification/quality used in this report.

## 1.7 Rational Hydrology Method & Unit Hydrograph Hydrology Method Calculations

The Riverside County Rational Method (RRIV), Riverside County Unit Hydrograph Method (UNRIV), and Hydrograph Routing/Basin Analysis (ROUTE) software applications provided by CivilDesign® Corporation were used for the rational method, unit hydrograph method, and hydrograph (basin) routing calculations included in this report.

# C. Existing Conditions On-site Hydrology Calculations

## 1.1 Existing Conditions On-Site Rational Method Calculations

Input values for the existing conditions rational method calculations prepared for this report are tabulated as follows:

**Table 4** – Existing Conditions Rational Method Input Values

| AREA NODE | SIZE (AC) | COVER TYPE | SOIL TYPE (%) | SCS (AMC II) | | U.S. ELEV. (FT) | D.S. ELEV. (FT) | LENGTH (FT) |
|---|---|---|---|---|---|---|---|---|
| A1<br>0 - 1 | 9.91 | UNDEVELOPED<br>POOR | A=0.655<br>D=0.345 | 50<br>79 | 60 | 2402.0 | 2379.0 | 675 |
| A2<br>1 - 2 | 4.36 | UNDEVELOPED<br>POOR | A=0.493<br>D=0.507 | 50<br>79 | 65 | 2379.0 | 2363.0 | 789 |

Output for the offsite (tributary) rational method calculations are tabulated as follows:

**Table 5** – Existing Conditions Rational Method Output Calculations

| B1AREA | NODE | $TC_{100}$ (MIN.) | $Q_{10}$ (CFS) | $*Q_{100}$ (CFS) |
|---|---|---|---|---|
| A | 0 TO 2 | 16.51 | 19.21 | 30.58 |

Note that the existing conditions rational method calculations and associated peak flows are included for reference only, as the Riverside County Hydrology Manual does not provide an option for translation of rational method time of concentration to unit hydrograph lag time. Comparative analysis of existing vs. developed conditions for all analyzed events is therefore based solely on the unit hydrograph calculations prepared for this report.

Refer to Exhibit "F" for the "Existing On-Site Hydrologic Conditions Study Map".
Refer to Attachment No. 1 for printouts of the "Existing Conditions On-Site Calculations; 10-Year & 100-Year Rational Method".

## 1.2 Existing Conditions On-Site Unit Hydrograph Calculations

Input values for the existing conditions unit hydrograph calculations prepared for this report are tabulated as follows:

**Table 6** – Existing Conditions Unit Hydrograph Input Values

| DRAINAGE AREA | SIZE (AC) | RUNOFF INDEX (RI) | IMPERVIOUS FRACTION | L (FT) | Lc (FT) | U.S. ELEV. | D.S. ELEV. | ELEV. CHANGE | MANNING'S |
|---|---|---|---|---|---|---|---|---|---|
| A | 14.27 | 74.5 | 0.00 | 1,464 | 865 | 2402.0 | 2363.0 | 39.0 | 0.030 |

Output for the existing conditions unit hydrograph calculations are tabulated as follows:

**Table 7** – Existing Conditions Unit Hydrograph Output Calculations (2-Year 1, 3, 6, & 24-Hour)

| DRAINAGE AREA | LAG (HR) | $Q_{2-1}$ (CFS) | $Q_{2-3}$ (CFS) | $Q_{2-6}$ (CFS) | $Q_{2-24}$ (CFS) | $V_{2-1}$ (AC-FT) | $V_{2-3}$ (AC-FT) | $V_{2-6}$ (AC-FT)) | $V_{2-24}$ (AC-FT) |
|---|---|---|---|---|---|---|---|---|---|
| A | 0.087 | 11.45 | 4.62 | 4.24 | 0.52 | 0.2252 | 0.2042 | 0.2521 | 0.3151 |

**Table 8** – Existing Conditions Unit Hydrograph Output Calculations (5-Year 1, 3, 6, & 24-Hour)

| DRAINAGE AREA | LAG (HR) | $Q_{5-1}$ (CFS) | $Q_{5-3}$ (CFS) | $Q_{5-6}$ (CFS) | $Q_{5-24}$ (CFS) | $V_{5-1}$ (AC-FT) | $V_{5-3}$ (AC-FT) | $V_{5-6}$ (AC-FT) | $V_{5-24}$ (AC-FT) |
|---|---|---|---|---|---|---|---|---|---|
| A | 0.087 | 16.76 | 8.15 | 7.11 | 0.86 | 0.3533 | 0.3515 | 0.4066 | 0.4397 |

**Table 9**– Existing Conditions Unit Hydrograph Output Calculations (10-Year 1, 3, 6, & 24-Hour)

| DRAINAGE AREA | LAG (HR) | $Q_{10-1}$ (CFS) | $Q_{10-3}$ (CFS) | $Q_{10-6}$ (CFS) | $Q_{10-24}$ (CFS) | $V_{10-1}$ (AC-FT) | $V_{10-3}$ (AC-FT) | $V_{10-6}$ (AC-FT) | $V_{10-24}$ (AC-FT) |
|---|---|---|---|---|---|---|---|---|---|
| A | 0.087 | 23.75 | 13.70 | 12.32 | 4.76 | 0.6507 | 0.7598 | 0.9027 | 1.2608 |

**Table 10** – Existing Conditions Unit Hydrograph Output Calculations (100-Year 1, 3, 6, & 24-Hour)

| DRAINAGE AREA | LAG (HR) | $Q_{100-1}$ (CFS) | $Q_{100-3}$ (CFS) | $Q_{100-6}$ (CFS) | $Q_{100-24}$ (CFS) | $V_{100-1}$ (AC-FT) | $V_{100-3}$ (AC-FT) | $V_{100-6}$ (AC-FT) | $V_{100-24}$ (AC-FT) |
|---|---|---|---|---|---|---|---|---|---|
| A | 0.087 | 37.70 | 22.86 | 20.32 | 9.69 | 1.1546 | 1.5703 | 1.7574 | 3.2553 |

Refer to Exhibit "F" for the "Existing Hydrologic Conditions Study Map".
Refer to Attachment No. 2 for printouts of the "Existing Conditions On-Site Calculations; 2, 5, 10, & 100-Year Unit Hydrograph".

# D. Developed Conditions On-site Hydrology Calculations

## 1.1 Develpoed Conditions On-Site Rational Method Calculations

Input values for the existing conditions rational method calculations prepared for this report are tabulated as follows:

**Table 11** – Developed Conditions Rational Method Input Values

| AREA NODE | SIZE (AC) | COVER TYPE | SOIL TYPE (%) | U.S. ELEV. (FT) | D.S. ELEV. (FT) | LENGTH (FT) |
|---|---|---|---|---|---|---|
| A1 NODE 0 - 1 | 3.51 | COMMERCIAL | A=0.754 C=0.246 | 2391.0 | 2383.08 | 533 |
| PIPE NODE 1 - 2 | 24" | ~ | ~ | 2379.08 | 2379.00 | 108.36 |
| CONFLUENCE 1 OF 2 | | | | | | |
| A2 NODE 3 - 4 | 0.19 | CONDO | A=1.00 | 2385.50 | 2384.52 | 136 |
| PIPE NODE 4 - 2 | 8" | ~ | ~ | 2380.30 | 2379.00 | 262.00 |
| CONFLUENCE 2 OF 2 | | | | | | |
| A3 NODE 2 | 0.39 | CONDO | A=1.00 | ~ | ~ | ~ |
| PIPE NODE 2 - 5 | 24" | ~ | ~ | 2379.00 | 2377.10 | 379.55 |
| A4 NODE 5 | 0.60 | CONDO | A=1.00 | ~ | ~ | ~ |
| PIPE NODE 5 - 6 | 24" | ~ | ~ | 2377.10 | 2376.04 | 105.50 |
| A5 NODE 6 | 1.27 | COMMERCIAL | A=0.446 C=0.554 | ~ | ~ | ~ |
| PIPE NODE 6 - 7 | 24" | ~ | ~ | 2376.04 | 2365.00 | 221.33 |
| CONFLUENCE 1 OF 4 | | | | | | |
| A6 NODE 0 - 8 | 0.86 | APARTMENT | A=0.900 C=0.100 | 2391.0 | 2383.12 | 312.87 |
| PIPE NODE 8 - 9 | 12" | ~ | ~ | 2380.12 | 2377.00 | 408.16 |
| A7 NODE 9 | 1.32 | COMMERCIAL | C=1.00 | ~ | ~ | ~ |
| PIPE NODE 9 - 7 | 12" | ~ | ~ | 2377.00 | 2365.50 | 96.38 |
| CONFLUENCE 2 OF 4 | | | | | | |
| A8 NODE 10 - 11 | 0.95 | COMMERCIAL | C=1.00 | 2384.48 | 2377.53 | 350.52 |
| PIPE NODE 11 - 7 | 12" | ~ | ~ | 2373.53 | 2365.50 | 96.47 |
| 3 OF 4 | | | | | | |
| A9 NODE 12 - 13 | 4.52 | COMMERCIAL | A=0.737 C=0.263 | 2385.50 | 2374.10 | 766.58 |
| PIPE NODE 13 - 7 | 24" | ~ | ~ | 2366.40 | 2365.50 | 99.22 |
| CONFLUENCE 4 OF 4 | | | | | | |
| | | | | | | |
| A10 NODE 14 | 0.66 | 1 AC LOTS | A=0.206 C=0.794 | 2385.88 | 2362.59 | 921 |

Output for the offsite (tributary) rational method calculations are tabulated as follows:

**Table 12** – Developed Conditions Rational Method Output Calculations

| B1AREA | NODE | $TC_{100}$ (MIN.) | $Q_{10}$ (CFS) | $*Q_{100}$ (CFS) |
|---|---|---|---|---|
| A1 – A9 | 0 TO 13 | 10.68 | 26.72 | 40.63 |
| | | | | |
| A10 | 14 TO 15 | 15.36 | 0.82 | 1.31 |

Note that the existing conditions rational method calculations and associated peak flows are included for reference only, as the Riverside County Hydrology Manual does not provide an option for translation of rational method time of concentration to unit hydrograph lag time. Comparative analysis of existing vs. developed conditions for all analyzed events is therefore based solely on the unit hydrograph calculations prepared for this report.

Refer to Exhibit "G" for the "Existing On-Site Hydrologic Conditions Study Map".
Refer to Attachment No. 3 for printouts of the "Existing Conditions On-Site Calculations; 10-Year & 100-Year Rational Method".

## 1.2 Developed Conditions On-Site Unit Hydrograph Calculations

Input values for the developed conditions unit hydrograph calculations prepared for this report are tabulated as follows:

**Table 13** – Developed Conditions Unit Hydrograph Input Values

| DRAINAGE AREA | SIZE (AC) | RUNOFF INDEX (RI) | IMPERVIOUS FRACTION | L (FT) | Lc (FT) | U.S. ELEV. | D.S. ELEV. | ELEV. CHANGE | MANNING'S |
|---|---|---|---|---|---|---|---|---|---|
| A | 14.27 | 46.6 | 0.159 | 2,019 | 766 | 2391.0 | 2362.59 | 28.41 | 0.015 |

Output for the developed conditions unit hydrograph calculations are tabulated as follows:

**Table 14** – Developed Conditions Unit Hydrograph Output Calculations (2-Year 1, 3, 6, & 24-Hour)

| DRAINAGE AREA | LAG (HR) | $Q_{2-1}$ (CFS) | $Q_{2-3}$ (CFS) | $Q_{2-6}$ (CFS) | $Q_{2-24}$ (CFS) | $V_{2-1}$ (AC-FT) | $V_{2-3}$ (AC-FT) | $V_{2-6}$ (AC-FT)) | $V_{2-24}$ (AC-FT) |
|---|---|---|---|---|---|---|---|---|---|
| A | 0.53 | 13.27 | 8.97 | 8.87 | 3.84 | 0.4934 | 0.8459 | 1.2512 | 2.3350 |

**Table 15** – Developed Conditions Unit Hydrograph Output Calculations (5-Year 1, 3, 6, & 24-Hour)

| DRAINAGE AREA | LAG (HR) | $Q_{5-1}$ (CFS) | $Q_{5-3}$ (CFS) | $Q_{5-6}$ (CFS) | $Q_{5-24}$ (CFS) | $V_{5-1}$ (AC-FT) | $V_{5-3}$ (AC-FT) | $V_{5-6}$ (AC-FT) | $V_{5-24}$ (AC-FT) |
|---|---|---|---|---|---|---|---|---|---|
| A | 0.53 | 17.30 | 11.75 | 11.40 | 5.30 | 0.6425 | 1.1080 | 1.6082 | 3.2225 |

**Table 16** – Developed Conditions Unit Hydrograph Output Calculations (10-Year 1, 3, 6, & 24-Hour)

| DRAINAGE AREA | LAG (HR) | $Q_{10-1}$ (CFS) | $Q_{10-3}$ (CFS) | $Q_{10-6}$ (CFS) | $Q_{10-24}$ (CFS) | $V_{10-1}$ (AC-FT) | $V_{10-3}$ (AC-FT) | $V_{10-6}$ (AC-FT) | $V_{10-24}$ (AC-FT) |
|---|---|---|---|---|---|---|---|---|---|
| A | 0.53 | 22.11 | 13.85 | 13.32 | 6.41 | 0.7813 | 1.3062 | 1.8783 | 3.8938 |

**Table 17** – Developed Conditions Unit Hydrograph Output Calculations (100-Year 1, 3, 6, & 24-Hour)

| DRAINAGE AREA | LAG (HR) | $Q_{100-1}$ (CFS) | $Q_{100-3}$ (CFS) | $Q_{100-6}$ (CFS) | $Q_{100-24}$ (CFS) | $V_{100-1}$ (AC-FT) | $V_{100-3}$ (AC-FT) | $V_{100-6}$ (AC-FT) | $V_{100-24}$ (AC-FT) |
|---|---|---|---|---|---|---|---|---|---|
| A | 0.53 | 34.78 | 21.09 | 19.83 | 10.08 | 1.1941 | **1.9698** | 2.7785 | 6.1240 |

Refer to Exhibit "G" for the "Existing Hydrologic Conditions Study Map".
Refer to Attachment No. 4 for printouts of the "Developed Conditions On-site Calculations; On-Site 2, 5, 10, & 100-Year Unit Hydrograph".

# E. Basin Routing Calculations

## 1.1 Detention Basin Analysis

A detention/retention basin is proposed to attenuation storm flows and for WQMP volume retention and infiltration. Input values of the depth vs. volume for detention basin routing calculations prepared for this report are tabulated as follows:

**Table 18** – Detention Basins A,, System Depth vs. Volume

| ELEVATION | DEPTH | VOLUME (CF) | VOLUME (AF) |
|---|---|---|---|
| 2361.50 | 0.00 | 0.00 | 0.0000 |
| 2362.00 | 0.50 | 3,998 | 0.0918 |
| 2363.00 | 1.50 | 15,829 | 0.3634 |
| 2364.00 | 2.50 | 30,381 | 0.6975 |
| 2365.00 | 3.50 | 46,190 | 1.0604 |
| 2366.00 | 4.50 | 62,556 | 1.4361 |
| 2367.00 | 5.50 | 78921 | 1.8118 |
| 2368.00 | 6.50 | 90,732 | 2.0829 |
| **2368.45 (10" OUTLET)** | **6.95** | **97,890** | **2.2472** |
| 2369.00 | 7.50 | 109,283 | 2.5088 |
| 2370.00 | 8.50 | 121,113 | 2.7804 |
| 2371.00 | 9.50 | 129,110 | 2.9640 |

**Table 19** – Detention Basins Output Calculations

| BASIN AREA | STORM EVENT | OUTLET (IN) | OUTLET U.S. ELEV. (FT) | OUTLET D.S. ELEV. (FT) | OUTLET LENGTH (FT) | EXISTING PEAK Q (CFS) | OUTFLOW PEAK Q (CFS) | BASIN WATER DEPTH (FT) |
|---|---|---|---|---|---|---|---|---|
| C | 2yr, 24hr | 10" PIPE OUTLET | 2368.45 | 2362.87 (d=5.58) | 24.67 | 0.52 | 0.21 | 7.03 |
| | 5yr,24hr | | | | | 0.86 | *3.05* | *7.76* |
| | 10yr, 24hr | | | | | 4.76 | 4.62 | 8.03 |
| | 100yr,6hr | | | | | 20.32 | 4.32 | 7.98 |
| | 100yr,24hr | | | | | 9.69 | **7.71** | **9.08** |

Refer to Attachment No. 5 for a printout of the "Basin Routing Calculations".

# F. Summary & Conclusion

## 1.1 Existing vs. Developed Summary

Summaries of the existing vs. developed unit hydrograph calculations are tabulated below:

**Table 20** – Unit Hydrograph Summary

| AREA | STORM EVENT (YEAR) | STORM EVENT (HOUR) | EXISTING PEAK Q (CFS) | DEVELOPED PEAK Q (CFS) | INCREASE PEAK Q (CFS | EXISTING VOLUME (AF) | DEVELOPED VOLUME* (AF) | INCREASE VOLUME* (AF |
|---|---|---|---|---|---|---|---|---|
| A | 2 | 1 | 11.45 | 13.27 | 1.82 | 0.2252 | 0.4934 | 0.2682 |
| | 2 | 3 | 4.62 | 8.97 | 4.35 | 0.2042 | 0.8459 | 0.6417 |
| | 2 | 6 | 4.24 | 8.87 | 4.63 | 0.2521 | 1.2512 | 0.9991 |
| | 2 | 24 | 0.52 | 3.84 | 3.32 | 0.3151 | 2.3350 | 2.0199 |
| | 5 | 1 | 16.76 | 17.30 | 0.54 | 0.3533 | 0.6425 | 0.2892 |
| | 5 | 3 | 8.15 | 11.75 | 3.60 | 0.3515 | 1.1080 | 0.7565 |
| | 5 | 6 | 7.11 | 11.40 | 4.29 | 0.4066 | 1.6082 | 1.2016 |
| | 5 | 24 | 0.86 | 5.30 | 4.44 | 0.4397 | 3.2225 | 2.7828 |
| | 10 | 1 | 23.75 | 22.11 | *-1.64* | 0.6507 | 0.7813 | 0.1306 |
| | 10 | 3 | 13.70 | 13.85 | 0.15 | 0.7598 | 1.3062 | 0.5464 |
| | 10 | 6 | 12.32 | 13.32 | 1.00 | 0.9027 | 1.8783 | 0.9756 |
| | 10 | 24 | 4.76 | 6.41 | 1.65 | 1.2608 | 3.8938 | 2.6330 |
| | 100 | 1 | 37.70 | 34.78 | *-2.92* | 1.1546 | 1.1941 | 0.0395 |
| | 100 | 3 | 22.86 | 21.09 | *-1.77* | 1.5703 | 1.9698 | 0.3995 |
| | 100 | 6 | 20.32 | 19.83 | *-0.49* | 1.7574 | 2.7785 | 1.0211 |
| | 100 | 24 | 9.69 | 10.08 | 0.39 | 3.2553 | 6.1240 | 2.8687 |

* Above listed values are results prior to mitigation storage and not reflective of actual site discharge.

Pursuant to City of Banning Ordinance No. 1415, Section 6, retention of the entire calculated developed conditions 100-year, 3-hour volume of **1.9698 af** is required. The County of Riverside policy is to mitigate developed peak flows for all storm events up to and including the 10-year, 24-hour event to less or equal to that of the existing condition. An underground infiltration basin is proposed for the project. In order to reduce the developed condition peak 10-year, 24-hour flow of **6.41 cfs** to match the existing conditions peak 10-year, 24-hour flow of **4.76 cfs**, the underground infiltration basin has been sized with the total capacity of **2.2472 af**. This will allow for capture of the 100-year, 3-hour volume of 1.9698 af while allowing additional volume for storm buffering.

Based on this capture volume, the proposed infiltration basin will retain and infiltrate the entire developed conditions volumes for all events except for the 2, 5, 10-year, 24-hour; and the 100-year, 6-hour & 24-hour events. The peak flow for the developed conditions 2, 10-year, 24-hour; and 100-year, 6-hour events will be mitigated to lower than the existing conditions, as tabulated on the following page. Although not required per the County of Riverside standards, mitigation for the peak developed conditions flow for the 100-year,

24-hour event is also provided. Mitigation of the 5-year, 24-hour storm is not feasible due to the extremely low flow rate of the exiting condition.

**Table 21** – Unit Hydrograph Mitigation Summary

| AREA | STORM EVENT (YEAR) | STORM EVENT (HOUR) | EXISTING PEAK Q (CFS) | DEVELOPED PEAK Q (CFS) | MITIGATED DEVELOPED PEAK Q (CFS) | EXISTING VOLUME (AF) | DEVELOPED VOLUME (AF) | MITIGATED DISCHARGE VOLUME (AF) | % STORM CAPTURE |
|---|---|---|---|---|---|---|---|---|---|
| A | 2 | 1 | 11.45 | 13.27 | 0.00 | 0.2252 | 0.4934 | 0.000 | 100% |
| | | 3 | 4.62 | 8.97 | 0.00 | 0.2042 | 0.8459 | 0.000 | 100% |
| | | 6 | 4.24 | 8.87 | 0.00 | 0.2521 | 1.2512 | 0.000 | 100% |
| | | 24 | 0.52 | 3.84 | 0.21 | 0.3151 | 2.3350 | 0.0878 | 96.2% |
| | 5 | 1 | 16.76 | 17.30 | 0.00 | 0.3533 | 0.6425 | 0.000 | 100% |
| | | 3 | 8.15 | 11.75 | 0.00 | 0.3515 | 1.1080 | 0.000 | 100% |
| | | 6 | 7.11 | 11.40 | 0.00 | 0.4066 | 1.6082 | 0.000 | 100% |
| | | 24 | 0.86 | 5.30 | *3.05* | 0.4397 | 3.2225 | 0.9753 | 69.7% |
| | 10 | 1 | 23.75 | 22.11 | 0.00 | 0.6507 | 0.7813 | 0.000 | 100% |
| | | 3 | 13.70 | 13.85 | 0.00 | 0.7598 | 1.3062 | 0.000 | 100% |
| | | 6 | 12.32 | 13.32 | 0.00 | 0.9027 | 1.8783 | 0.000 | 100% |
| | | 24 | 4.76 | 6.41 | 4.62 | 1.2608 | 3.8938 | 1.6466 | 54.6% |
| | 100 | 1 | 37.70 | 34.78 | 0.00 | 1.1546 | 1.1941 | 0.000 | 100% |
| | | **3** | 22.86 | 21.09 | 0.00 | 1.5703 | **1.9698** | 0.000 | 100% |
| | | 6 | 20.32 | 19.83 | 4.32 | 1.7574 | 2.7785 | 0.5313 | 80.9% |
| | | 24 | 9.69 | 10.08 | 7.71 | 3.2553 | 6.1240 | 3.8768 | 63.3% |

## 1.2 Hydraulics Calculations

The proposed underground infiltration system shall be designed to capture and infiltrate 2.2472 af, as discussed above. Discharge/overflow from the underground infiltration basin shall be via the catch basin located at the southeast corner of the property. A 10" pipe shall be routed to a 6 ft. parkway culvert outleting to curb and gutter of West Lincoln Street. The parkway culvert shall be capable of outleting the peak mitigated flow rate of 7.71 CFS, as shown in Table 22.

Refer to Attachment No. 6 for a printout of the "Parkway Culvert Capacity Calculations".

## 1.3 Conclusion

The proposed project will provide a retention/detention system sized to retain 2.2472 af of storm water while detaining an additional 0.7168 af of storm water. This will provide retention of the calculated developed conditions 100-year, 3-hour volume per City of Banning requirements and will provide adequate volume to mitigate developed flow rates to less than the existing condition flows rates, up to and including the 100-year, 24-hour event, with the exception of the 5-year, 24-hour storm. It should be noted that mitigation of the 5-year, 24-hour storm is not feasible due to the extremely low flow rate of the exiting condition.
reduce

With the above mitigation measure the development of the Brown Strauss Steel facility will not have a negative impact on downstream properties or facilities. WQMP mitigation for the site is proposed via an underground retention basin as a combination WQMP retention and detention basin to mitigate both WQMP and storm water impacts. For the purposes of this report the WQMP storage capacity and infiltration rates of the proposed underground system have been ignored. Refer to project specific WQMP for additional requirements.

**(END)**

# EXHIBIT “A”

Project Watershed
Aerial Photo




# AERIAL PHOTO EXHIBIT
BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220

PREPARED BY:
BONADIMAN
CIVILDESIGN

PREPARED FOR:

| BY | MARK | REVISION DESCRIPTION | DATE |
|---|---|---|---|

| | |
|---|---|
| PREPARED FOR: | BROWN STRAUSS STEEL |
| JOB NO: | 225047 |
| PREPARED BY: | JTS |
| CHECKED BY: | JTS |

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AERIAL PHOTO EXHIBIT
BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220

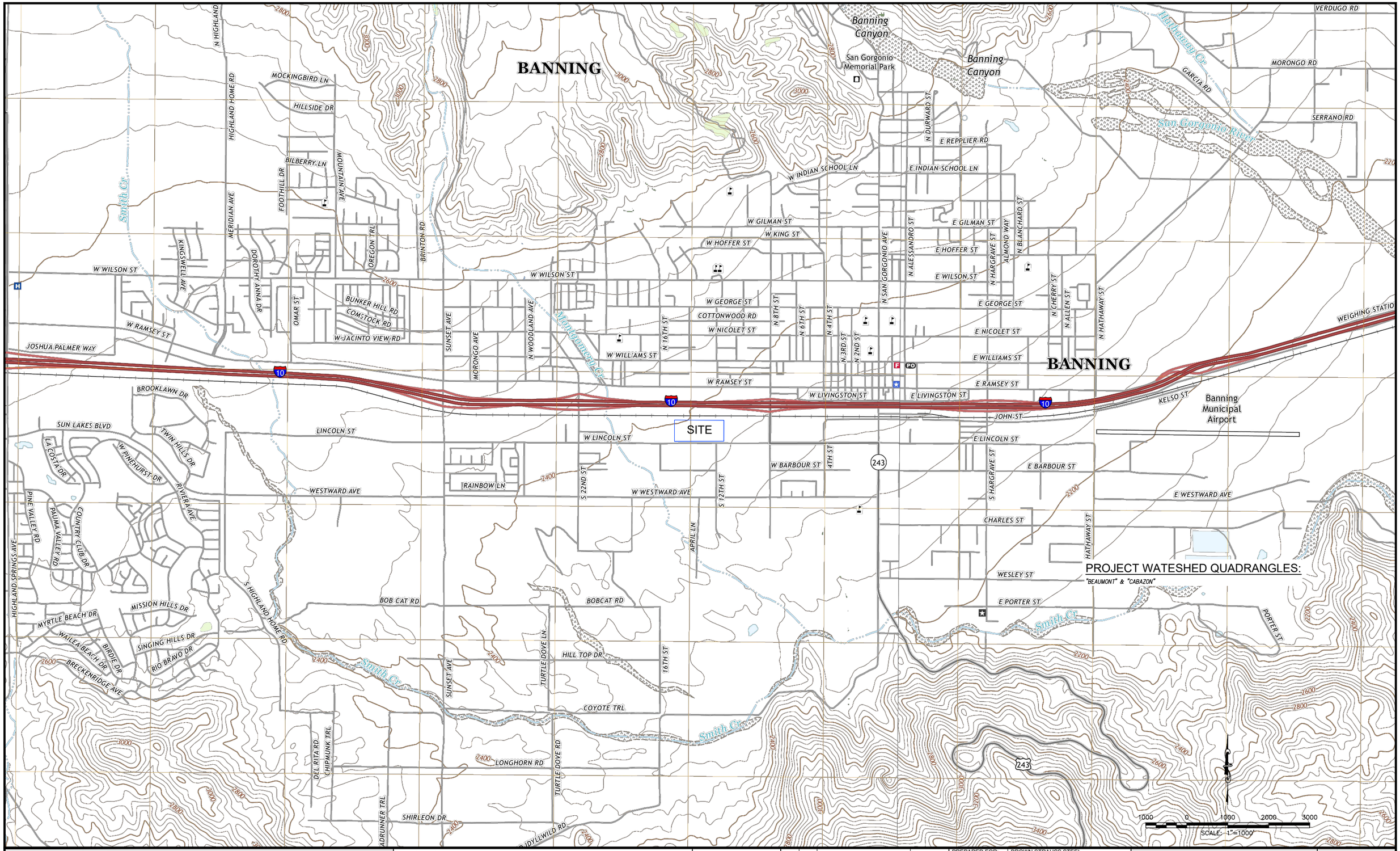
A

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 03-06-23

SHEET 1 OF 1

# EXHIBIT “B”

Project Watershed
USGS Quadrangle




# USGS QUADRANGLE EXHIBIT

BROWN STRAUSS STEEL

CITY OF BANNING, CA 92220

PREPARED BY:

BONADIMAN

TEL.

CIVILDESIGN

PREPARED FOR:

| BY | MARK | REVISION DESCRIPTION | DATE |
|---|---|---|---|
| | | | |

| | |
|---|---|
| PREPARED FOR: | BROWN STRAUSS STEEL |
| JOB NO: | 225047 |
| PREPARED BY: | JTS |
| CHECKED BY: | JTS |

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QUADRANGLE EXHIBIT
BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220

B

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 03-06-23

SHEET 1 OF 1

# EXHIBIT “C”

FEMA Floodplain Maps

## NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of 0.0 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #8202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

**Base map** information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1994 or later.

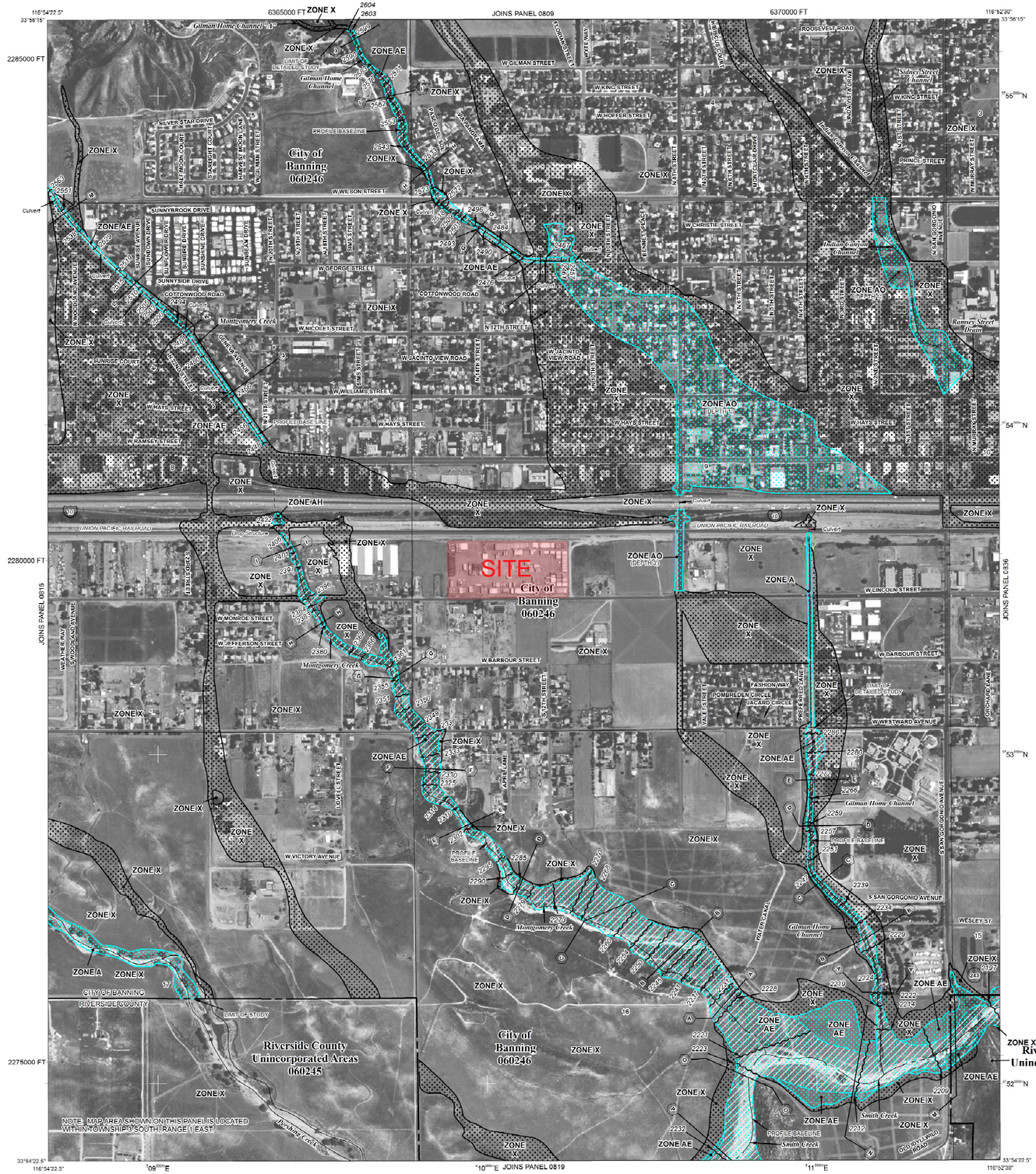
This map may reflect more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

**Corporate limits** shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.




## LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

| | |
|---|---|
| **ZONE A** | No Base Flood Elevations determined. |
| **ZONE AE** | Base Flood Elevations determined. |
| **ZONE AH** | Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined. |
| **ZONE AO** | Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined. |
| **ZONE AR** | Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood. |
| **ZONE A99** | Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined. |
| **ZONE V** | Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined. |
| **ZONE VE** | Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined. |

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

| | |
|---|---|
| **ZONE X** | Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. |

OTHER AREAS

| | |
|---|---|
| **ZONE X** | Areas determined to be outside the 0.2% annual chance floodplain. |
| **ZONE D** | Areas in which flood hazards are undetermined, but possible. |

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

| | |
|---|---|
| | 1% annual chance floodplain boundary |
| | 0.2% annual chance floodplain boundary |
| | Floodway boundary |
| | Zone D boundary |
| | CBRS and OPA boundary |
| | Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities. |
| 513 (EL. 987) | Base Flood Elevation line and value; elevation in feet* |
| | Base Flood Elevation value where uniform within zone; elevation in feet* |
| A — A | Cross section line |
| 23 — 23 | Transect line |
| 87°07'45", 32°22'30" | Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere |
| 4376000mN | 1000-meter Universal Transverse Mercator grid values, zone 11N |
| 600000 FT | 5000-foot grid ticks: California State Plane coordinate system, zone VI (FIPSZONE 0406), Lambert Conformal Conic projection |
| DX5510 × | Bench mark (see explanation in Notes to Users section of this FIRM panel) |
| M1.5 | River Mile |

* Referenced to the North American Vertical Datum of 1988

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent, or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0817G

# FIRM

FLOOD INSURANCE RATE MAP

**RIVERSIDE COUNTY, CALIFORNIA**
AND INCORPORATED AREAS

**PANEL 817 OF 3805**
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| BANNING, CITY OF | 060246 | 0817 | G |
| RIVERSIDE COUNTY | 060245 | 0817 | G |

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

**MAP NUMBER**
**06065C0817G**

**EFFECTIVE DATE**
**AUGUST 28, 2008**

Federal Emergency Management Agency

# EXHIBIT “D”

Riverside County
Hydrology Manual
Isohyetal Maps

**RCFC & WCD**

HYDROLOGY MANUAL

# RAINFALL INTENSITY–INCHES PER HOUR

| ANZA | | | BANNING | | | BEAUMONT | | | CALIMESA | | | CANYON LAKE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DURATION MINUTES | FREQUENCY 10 YEAR | 100 YEAR | DURATION MINUTES | FREQUENCY 10 YEAR | 100 YEAR | DURATION MINUTES | FREQUENCY 10 YEAR | 100 YEAR | DURATION MINUTES | FREQUENCY 10 YEAR | 100 YEAR | DURATION MINUTES | FREQUENCY 10 YEAR | 100 YEAR |
| 5 | 4.23 | 6.85 | 5 | 3.32 | 4.93 | 5 | 3.32 | 4.93 | 5 | 3.57 | 5.30 | 5 | 3.07 | 4.61 |
| 6 | 3.80 | 6.16 | 6 | 3.02 | 4.47 | 6 | 3.02 | 4.47 | 6 | 3.23 | 4.79 | 6 | 2.81 | 4.23 |
| 7 | 3.48 | 5.63 | 7 | 2.78 | 4.12 | 7 | 2.78 | 4.12 | 7 | 2.97 | 4.40 | 7 | 2.61 | 3.93 |
| 8 | 3.22 | 5.21 | 8 | 2.59 | 3.84 | 8 | 2.59 | 3.84 | 8 | 2.76 | 4.09 | 8 | 2.45 | 3.68 |
| 9 | 3.01 | 4.87 | 9 | 2.43 | 3.61 | 9 | 2.43 | 3.61 | 9 | 2.58 | 3.83 | 9 | 2.31 | 3.48 |
| 10 | 2.83 | 4.58 | 10 | 2.30 | 3.41 | 10 | 2.30 | 3.41 | 10 | 2.44 | 3.62 | 10 | 2.20 | 3.31 |
| 11 | 2.67 | 4.33 | 11 | 2.19 | 3.24 | 11 | 2.19 | 3.24 | 11 | 2.31 | 3.43 | 11 | 2.10 | 3.16 |
| 12 | 2.54 | 4.12 | 12 | 2.09 | 3.10 | 12 | 2.09 | 3.10 | 12 | 2.21 | 3.27 | 12 | 2.01 | 3.03 |
| 13 | 2.43 | 3.93 | 13 | 2.00 | 2.97 | 13 | 2.00 | 2.97 | 13 | 2.11 | 3.13 | 13 | 1.94 | 2.92 |
| 14 | 2.33 | 3.77 | 14 | 1.92 | 2.85 | 14 | 1.92 | 2.85 | 14 | 2.03 | 3.01 | 14 | 1.87 | 2.82 |
| 15 | 2.23 | 3.62 | 15 | 1.86 | 2.75 | 15 | 1.86 | 2.75 | 15 | 1.95 | 2.89 | 15 | 1.81 | 2.72 |
| 16 | 2.15 | 3.49 | 16 | 1.79 | 2.66 | 16 | 1.79 | 2.66 | 16 | 1.88 | 2.79 | 16 | 1.75 | 2.64 |
| 17 | 2.08 | 3.37 | 17 | 1.74 | 2.58 | 17 | 1.74 | 2.58 | 17 | 1.82 | 2.70 | 17 | 1.70 | 2.56 |
| 18 | 2.01 | 3.26 | 18 | 1.68 | 2.50 | 18 | 1.68 | 2.50 | 18 | 1.76 | 2.62 | 18 | 1.66 | 2.50 |
| 19 | 1.95 | 3.16 | 19 | 1.64 | 2.43 | 19 | 1.64 | 2.43 | 19 | 1.71 | 2.54 | 19 | 1.62 | 2.43 |
| 20 | 1.89 | 3.06 | 20 | 1.59 | 2.36 | 20 | 1.59 | 2.36 | 20 | 1.67 | 2.47 | 20 | 1.58 | 2.37 |
| 22 | 1.79 | 2.90 | 22 | 1.51 | 2.25 | 22 | 1.51 | 2.25 | 22 | 1.58 | 2.34 | 22 | 1.51 | 2.27 |
| 24 | 1.70 | 2.76 | 24 | 1.45 | 2.15 | 24 | 1.45 | 2.15 | 24 | 1.51 | 2.23 | 24 | 1.44 | 2.17 |
| 26 | 1.62 | 2.63 | 26 | 1.39 | 2.06 | 26 | 1.39 | 2.06 | 26 | 1.44 | 2.14 | 26 | 1.39 | 2.09 |
| 28 | 1.56 | 2.52 | 28 | 1.33 | 1.98 | 28 | 1.33 | 1.98 | 28 | 1.38 | 2.05 | 28 | 1.34 | 2.02 |
| 30 | 1.49 | 2.42 | 30 | 1.29 | 1.91 | 30 | 1.29 | 1.91 | 30 | 1.33 | 1.98 | 30 | 1.30 | 1.95 |
| 32 | 1.44 | 2.33 | 32 | 1.24 | 1.84 | 32 | 1.24 | 1.84 | 32 | 1.29 | 1.91 | 32 | 1.26 | 1.89 |
| 34 | 1.39 | 2.25 | 34 | 1.20 | 1.78 | 34 | 1.20 | 1.78 | 34 | 1.24 | 1.85 | 34 | 1.22 | 1.84 |
| 36 | 1.34 | 2.18 | 36 | 1.17 | 1.73 | 36 | 1.17 | 1.73 | 36 | 1.21 | 1.79 | 36 | 1.19 | 1.79 |
| 38 | 1.30 | 2.11 | 38 | 1.13 | 1.68 | 38 | 1.13 | 1.68 | 38 | 1.17 | 1.74 | 38 | 1.16 | 1.74 |
| 40 | 1.27 | 2.05 | 40 | 1.10 | 1.64 | 40 | 1.10 | 1.64 | 40 | 1.14 | 1.69 | 40 | 1.13 | 1.70 |
| 45 | 1.18 | 1.91 | 45 | 1.04 | 1.54 | 45 | 1.04 | 1.54 | 45 | 1.07 | 1.58 | 45 | 1.07 | 1.61 |
| 50 | 1.11 | 1.80 | 50 | .98 | 1.45 | 50 | .98 | 1.45 | 50 | 1.01 | 1.49 | 50 | 1.02 | 1.53 |
| 55 | 1.05 | 1.70 | 55 | .93 | 1.38 | 55 | .93 | 1.38 | 55 | .95 | 1.42 | 55 | .97 | 1.46 |
| 60 | 1.00 | 1.62 | 60 | .89 | 1.32 | 60 | .89 | 1.32 | 60 | .91 | 1.35 | 60 | .93 | 1.40 |
| 65 | .95 | 1.55 | 65 | .85 | 1.27 | 65 | .85 | 1.27 | 65 | .87 | 1.29 | 65 | .89 | 1.35 |
| 70 | .91 | 1.48 | 70 | .82 | 1.22 | 70 | .82 | 1.22 | 70 | .84 | 1.24 | 70 | .86 | 1.30 |
| 75 | .88 | 1.42 | 75 | .79 | 1.17 | 75 | .79 | 1.17 | 75 | .80 | 1.19 | 75 | .84 | 1.26 |
| 80 | .85 | 1.37 | 80 | .76 | 1.13 | 80 | .76 | 1.13 | 80 | .78 | 1.15 | 80 | .81 | 1.22 |
| 85 | .82 | 1.32 | 85 | .74 | 1.10 | 85 | .74 | 1.10 | 85 | .75 | 1.11 | 85 | .79 | 1.18 |
| SLOPE = .580 | | | SLOPE = .530 | | | SLOPE = .530 | | | SLOPE = .550 | | | SLOPE = .480 | | |

STANDARD INTENSITY–DURATION CURVES DATA

PLATE D-4.1 (1 of 6)

# RAINFALL INTENSITY–INCHES PER HOUR

| CATHEDRAL CITY | | | CHERRY VALLEY | | | CORONA | | | DESERT HOT SPRINGS | | | ELSINORE - WILDOMAR | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | |
| | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR |
| 5 | 4.14 | 6.76 | 5 | 3.65 | 5.49 | 5 | 3.10 | 4.78 | 5 | 4.39 | 6.76 | 5 | 3.23 | 4.94 |
| 6 | 3.73 | 6.08 | 6 | 3.30 | 4.97 | 6 | 2.84 | 4.38 | 6 | 3.95 | 6.08 | 6 | 2.96 | 4.53 |
| 7 | 3.41 | 5.56 | 7 | 3.03 | 4.56 | 7 | 2.64 | 4.07 | 7 | 3.62 | 5.56 | 7 | 2.75 | 4.21 |
| 8 | 3.15 | 5.15 | 8 | 2.82 | 4.24 | 8 | 2.47 | 3.81 | 8 | 3.35 | 5.15 | 8 | 2.58 | 3.95 |
| 9 | 2.95 | 4.81 | 9 | 2.64 | 3.97 | 9 | 2.34 | 3.60 | 9 | 3.13 | 4.81 | 9 | 2.44 | 3.73 |
| 10 | 2.77 | 4.52 | 10 | 2.49 | 3.75 | 10 | 2.22 | 3.43 | 10 | 2.94 | 4.52 | 10 | 2.32 | 3.54 |
| 11 | 2.62 | 4.28 | 11 | 2.36 | 3.56 | 11 | 2.12 | 3.27 | 11 | 2.78 | 4.28 | 11 | 2.21 | 3.39 |
| 12 | 2.49 | 4.07 | 12 | 2.25 | 3.39 | 12 | 2.04 | 3.14 | 12 | 2.65 | 4.07 | 12 | 2.12 | 3.25 |
| 13 | 2.38 | 3.88 | 13 | 2.16 | 3.25 | 13 | 1.96 | 3.02 | 13 | 2.53 | 3.88 | 13 | 2.04 | 3.13 |
| 14 | 2.28 | 3.72 | 14 | 2.07 | 3.12 | 14 | 1.89 | 2.92 | 14 | 2.42 | 3.72 | 14 | 1.97 | 3.02 |
| 15 | 2.19 | 3.58 | 15 | 1.99 | 3.00 | 15 | 1.83 | 2.82 | 15 | 2.32 | 3.58 | 15 | 1.91 | 2.92 |
| 16 | 2.11 | 3.44 | 16 | 1.92 | 2.90 | 16 | 1.77 | 2.73 | 16 | 2.24 | 3.44 | 16 | 1.85 | 2.83 |
| 17 | 2.04 | 3.32 | 17 | 1.86 | 2.80 | 17 | 1.72 | 2.66 | 17 | 2.16 | 3.32 | 17 | 1.80 | 2.75 |
| 18 | 1.97 | 3.22 | 18 | 1.80 | 2.71 | 18 | 1.68 | 2.58 | 18 | 2.09 | 3.22 | 18 | 1.75 | 2.67 |
| 19 | 1.91 | 3.12 | 19 | 1.75 | 2.64 | 19 | 1.63 | 2.52 | 19 | 2.03 | 3.12 | 19 | 1.70 | 2.60 |
| 20 | 1.85 | 3.03 | 20 | 1.70 | 2.56 | 20 | 1.59 | 2.46 | 20 | 1.97 | 3.03 | 20 | 1.66 | 2.54 |
| 22 | 1.75 | 2.86 | 22 | 1.61 | 2.43 | 22 | 1.52 | 2.35 | 22 | 1.86 | 2.86 | 22 | 1.59 | 2.43 |
| 24 | 1.67 | 2.72 | 24 | 1.54 | 2.32 | 24 | 1.46 | 2.25 | 24 | 1.77 | 2.72 | 24 | 1.52 | 2.33 |
| 26 | 1.59 | 2.60 | 26 | 1.47 | 2.22 | 26 | 1.40 | 2.17 | 26 | 1.69 | 2.60 | 26 | 1.46 | 2.24 |
| 28 | 1.52 | 2.49 | 28 | 1.41 | 2.13 | 28 | 1.36 | 2.09 | 28 | 1.62 | 2.49 | 28 | 1.41 | 2.16 |
| 30 | 1.46 | 2.39 | 30 | 1.36 | 2.05 | 30 | 1.31 | 2.02 | 30 | 1.55 | 2.39 | 30 | 1.37 | 2.09 |
| 32 | 1.41 | 2.30 | 32 | 1.31 | 1.98 | 32 | 1.27 | 1.96 | 32 | 1.50 | 2.30 | 32 | 1.33 | 2.03 |
| 34 | 1.36 | 2.22 | 34 | 1.27 | 1.91 | 34 | 1.23 | 1.90 | 34 | 1.45 | 2.22 | 34 | 1.29 | 1.97 |
| 36 | 1.32 | 2.15 | 36 | 1.23 | 1.85 | 36 | 1.20 | 1.85 | 36 | 1.40 | 2.15 | 36 | 1.25 | 1.92 |
| 38 | 1.28 | 2.09 | 38 | 1.20 | 1.80 | 38 | 1.17 | 1.81 | 38 | 1.36 | 2.09 | 38 | 1.22 | 1.87 |
| 40 | 1.24 | 2.02 | 40 | 1.16 | 1.75 | 40 | 1.14 | 1.76 | 40 | 1.32 | 2.02 | 40 | 1.19 | 1.82 |
| 45 | 1.16 | 1.89 | 45 | 1.09 | 1.64 | 45 | 1.08 | 1.66 | 45 | 1.23 | 1.89 | 45 | 1.13 | 1.72 |
| 50 | 1.09 | 1.78 | 50 | 1.03 | 1.55 | 50 | 1.03 | 1.58 | 50 | 1.16 | 1.78 | 50 | 1.07 | 1.64 |
| 55 | 1.03 | 1.68 | 55 | .98 | 1.47 | 55 | .98 | 1.51 | 55 | 1.09 | 1.68 | 55 | 1.02 | 1.56 |
| 60 | .98 | 1.60 | 60 | .93 | 1.40 | 60 | .94 | 1.45 | 60 | 1.04 | 1.60 | 60 | .98 | 1.50 |
| 65 | .94 | 1.53 | 65 | .89 | 1.34 | 65 | .90 | 1.40 | 65 | .99 | 1.53 | 65 | .94 | 1.44 |
| 70 | .90 | 1.46 | 70 | .85 | 1.29 | 70 | .87 | 1.35 | 70 | .95 | 1.46 | 70 | .91 | 1.39 |
| 75 | .86 | 1.41 | 75 | .82 | 1.24 | 75 | .84 | 1.30 | 75 | .91 | 1.41 | 75 | .88 | 1.35 |
| 80 | .83 | 1.35 | 80 | .79 | 1.20 | 80 | .82 | 1.26 | 80 | .88 | 1.35 | 80 | .85 | 1.31 |
| 85 | .80 | 1.31 | 85 | .77 | 1.16 | 85 | .80 | 1.23 | 85 | .85 | 1.31 | 85 | .83 | 1.27 |
| SLOPE = .580 | | | SLOPE = .550 | | | SLOPE = .480 | | | SLOPE = .580 | | | SLOPE = .480 | | |

STANDARD INTENSITY–DURATION CURVES DATA

# RAINFALL INTENSITY–INCHES PER HOUR

| HEMET | | | HIGHGROVE | | | HOMELAND – WINCHESTER | | | IDYLLWILD | | | LAKEVIEW | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DURATION MINUTES | FREQUENCY 10 YEAR | 100 YEAR | DURATION MINUTES | FREQUENCY 10 YEAR | 100 YEAR | DURATION MINUTES | FREQUENCY 10 YEAR | 100 YEAR | DURATION MINUTES | FREQUENCY 10 YEAR | 100 YEAR | DURATION MINUTES | FREQUENCY 10 YEAR | 100 YEAR |
| 5 | 2.84 | 4.40 | 5 | 3.02 | 4.37 | 5 | 2.91 | 4.37 | 5 | 4.91 | 7.28 | 5 | 2.77 | 4.16 |
| 6 | 2.58 | 4.00 | 6 | 2.75 | 3.97 | 6 | 2.65 | 3.97 | 6 | 4.47 | 6.62 | 6 | 2.53 | 3.79 |
| 7 | 2.37 | 3.68 | 7 | 2.54 | 3.67 | 7 | 2.44 | 3.67 | 7 | 4.13 | 6.11 | 7 | 2.34 | 3.51 |
| 8 | 2.21 | 3.43 | 8 | 2.37 | 3.42 | 8 | 2.28 | 3.42 | 8 | 3.85 | 5.70 | 8 | 2.19 | 3.29 |
| 9 | 2.08 | 3.23 | 9 | 2.23 | 3.22 | 9 | 2.15 | 3.22 | 9 | 3.62 | 5.36 | 9 | 2.07 | 3.10 |
| 10 | 1.96 | 3.05 | 10 | 2.11 | 3.05 | 10 | 2.03 | 3.05 | 10 | 3.43 | 5.08 | 10 | 1.96 | 2.94 |
| 11 | 1.87 | 2.90 | 11 | 2.01 | 2.90 | 11 | 1.93 | 2.90 | 11 | 3.26 | 4.83 | 11 | 1.87 | 2.80 |
| 12 | 1.78 | 2.77 | 12 | 1.92 | 2.77 | 12 | 1.85 | 2.77 | 12 | 3.12 | 4.62 | 12 | 1.79 | 2.68 |
| 13 | 1.71 | 2.65 | 13 | 1.84 | 2.66 | 13 | 1.77 | 2.66 | 13 | 2.99 | 4.43 | 13 | 1.72 | 2.58 |
| 14 | 1.64 | 2.55 | 14 | 1.77 | 2.56 | 14 | 1.71 | 2.56 | 14 | 2.88 | 4.26 | 14 | 1.66 | 2.48 |
| 15 | 1.58 | 2.46 | 15 | 1.71 | 2.47 | 15 | 1.64 | 2.47 | 15 | 2.78 | 4.11 | 15 | 1.60 | 2.40 |
| 16 | 1.53 | 2.38 | 16 | 1.65 | 2.39 | 16 | 1.59 | 2.39 | 16 | 2.68 | 3.98 | 16 | 1.55 | 2.32 |
| 17 | 1.48 | 2.30 | 17 | 1.60 | 2.31 | 17 | 1.54 | 2.31 | 17 | 2.60 | 3.85 | 17 | 1.50 | 2.25 |
| 18 | 1.44 | 2.23 | 18 | 1.55 | 2.24 | 18 | 1.50 | 2.24 | 18 | 2.52 | 3.74 | 18 | 1.46 | 2.19 |
| 19 | 1.40 | 2.17 | 19 | 1.51 | 2.18 | 19 | 1.45 | 2.18 | 19 | 2.45 | 3.64 | 19 | 1.42 | 2.13 |
| 20 | 1.36 | 2.11 | 20 | 1.47 | 2.12 | 20 | 1.42 | 2.12 | 20 | 2.39 | 3.54 | 20 | 1.39 | 2.08 |
| 22 | 1.29 | 2.01 | 22 | 1.40 | 2.02 | 22 | 1.35 | 2.02 | 22 | 2.27 | 3.37 | 22 | 1.32 | 1.98 |
| 24 | 1.24 | 1.92 | 24 | 1.34 | 1.93 | 24 | 1.29 | 1.93 | 24 | 2.17 | 3.22 | 24 | 1.26 | 1.90 |
| 26 | 1.18 | 1.84 | 26 | 1.28 | 1.85 | 26 | 1.24 | 1.85 | 26 | 2.09 | 3.09 | 26 | 1.22 | 1.82 |
| 28 | 1.14 | 1.77 | 28 | 1.23 | 1.78 | 28 | 1.19 | 1.78 | 28 | 2.01 | 2.97 | 28 | 1.17 | 1.76 |
| 30 | 1.10 | 1.70 | 30 | 1.19 | 1.72 | 30 | 1.15 | 1.72 | 30 | 1.94 | 2.87 | 30 | 1.13 | 1.70 |
| 32 | 1.06 | 1.65 | 32 | 1.15 | 1.66 | 32 | 1.11 | 1.66 | 32 | 1.87 | 2.77 | 32 | 1.10 | 1.64 |
| 34 | 1.03 | 1.59 | 34 | 1.12 | 1.61 | 34 | 1.07 | 1.61 | 34 | 1.81 | 2.69 | 34 | 1.06 | 1.59 |
| 36 | 1.00 | 1.55 | 36 | 1.08 | 1.57 | 36 | 1.04 | 1.57 | 36 | 1.76 | 2.61 | 36 | 1.03 | 1.55 |
| 38 | .97 | 1.50 | 38 | 1.05 | 1.52 | 38 | 1.01 | 1.52 | 38 | 1.71 | 2.54 | 38 | 1.01 | 1.51 |
| 40 | .94 | 1.46 | 40 | 1.02 | 1.48 | 40 | .99 | 1.48 | 40 | 1.67 | 2.47 | 40 | .98 | 1.47 |
| 45 | .89 | 1.37 | 45 | .96 | 1.39 | 45 | .93 | 1.39 | 45 | 1.57 | 2.32 | 45 | .92 | 1.39 |
| 50 | .84 | 1.30 | 50 | .91 | 1.32 | 50 | .88 | 1.32 | 50 | 1.48 | 2.20 | 50 | .88 | 1.31 |
| 55 | .80 | 1.24 | 55 | .87 | 1.26 | 55 | .84 | 1.26 | 55 | 1.41 | 2.09 | 55 | .84 | 1.25 |
| 60 | .76 | 1.18 | 60 | .83 | 1.20 | 60 | .80 | 1.20 | 60 | 1.35 | 2.00 | 60 | .80 | 1.20 |
| 65 | .73 | 1.13 | 65 | .80 | 1.15 | 65 | .77 | 1.15 | 65 | 1.29 | 1.92 | 65 | .77 | 1.15 |
| 70 | .70 | 1.09 | 70 | .77 | 1.11 | 70 | .74 | 1.11 | 70 | 1.25 | 1.85 | 70 | .74 | 1.11 |
| 75 | .68 | 1.05 | 75 | .74 | 1.07 | 75 | .71 | 1.07 | 75 | 1.20 | 1.78 | 75 | .72 | 1.07 |
| 80 | .65 | 1.01 | 80 | .71 | 1.03 | 80 | .69 | 1.03 | 80 | 1.16 | 1.72 | 80 | .69 | 1.04 |
| 85 | .63 | .98 | 85 | .69 | 1.00 | 85 | .67 | 1.00 | 85 | 1.13 | 1.67 | 85 | .67 | 1.01 |
| SLOPE = .530 | | | SLOPE = .520 | | | SLOPE = .520 | | | SLOPE = .520 | | | SLOPE = .500 | | |

STANDARD
INTENSITY–DURATION
CURVES DATA

# RAINFALL INTENSITY—INCHES PER HOUR

| MIRA LOMA | | | MURRIETA - TEMECULA & RANCHO CALIFORNIA | | | NORCO | | | PALM SPRINGS | | | PERRIS VALLEY | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | |
| | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR |
| 5 | 2.84 | 4.48 | 5 | 3.45 | 5.10 | 5 | 2.77 | 4.16 | 5 | 4.23 | 6.76 | 5 | 2.64 | 3.78 |
| 6 | 2.58 | 4.07 | 6 | 3.12 | 4.61 | 6 | 2.53 | 3.79 | 6 | 3.80 | 6.08 | 6 | 2.41 | 3.46 |
| 7 | 2.37 | 3.75 | 7 | 2.87 | 4.24 | 7 | 2.34 | 3.51 | 7 | 3.48 | 5.56 | 7 | 2.24 | 3.21 |
| 8 | 2.21 | 3.49 | 8 | 2.67 | 3.94 | 8 | 2.19 | 3.29 | 8 | 3.22 | 5.15 | 8 | 2.09 | 3.01 |
| 9 | 2.08 | 3.28 | 9 | 2.50 | 3.69 | 9 | 2.07 | 3.10 | 9 | 3.01 | 4.81 | 9 | 1.98 | 2.84 |
| 10 | 1.96 | 3.10 | 10 | 2.36 | 3.48 | 10 | 1.96 | 2.94 | 10 | 2.83 | 4.52 | 10 | 1.88 | 2.69 |
| 11 | 1.87 | 2.95 | 11 | 2.24 | 3.30 | 11 | 1.87 | 2.80 | 11 | 2.67 | 4.28 | 11 | 1.79 | 2.57 |
| 12 | 1.78 | 2.82 | 12 | 2.13 | 3.15 | 12 | 1.79 | 2.68 | 12 | 2.54 | 4.07 | 12 | 1.72 | 2.46 |
| 13 | 1.71 | 2.70 | 13 | 2.04 | 3.01 | 13 | 1.72 | 2.58 | 13 | 2.43 | 3.88 | 13 | 1.65 | 2.37 |
| 14 | 1.64 | 2.60 | 14 | 1.96 | 2.89 | 14 | 1.66 | 2.48 | 14 | 2.33 | 3.72 | 14 | 1.59 | 2.29 |
| 15 | 1.58 | 2.50 | 15 | 1.89 | 2.79 | 15 | 1.60 | 2.40 | 15 | 2.23 | 3.58 | 15 | 1.54 | 2.21 |
| 16 | 1.53 | 2.42 | 16 | 1.82 | 2.69 | 16 | 1.55 | 2.32 | 16 | 2.15 | 3.44 | 16 | 1.49 | 2.14 |
| 17 | 1.48 | 2.34 | 17 | 1.76 | 2.60 | 17 | 1.50 | 2.25 | 17 | 2.08 | 3.32 | 17 | 1.45 | 2.08 |
| 18 | 1.44 | 2.27 | 18 | 1.71 | 2.52 | 18 | 1.46 | 2.19 | 18 | 2.01 | 3.22 | 18 | 1.41 | 2.02 |
| 19 | 1.40 | 2.21 | 19 | 1.66 | 2.45 | 19 | 1.42 | 2.13 | 19 | 1.95 | 3.12 | 19 | 1.37 | 1.97 |
| 20 | 1.36 | 2.15 | 20 | 1.61 | 2.38 | 20 | 1.39 | 2.08 | 20 | 1.89 | 3.03 | 20 | 1.34 | 1.92 |
| 22 | 1.29 | 2.04 | 22 | 1.53 | 2.26 | 22 | 1.32 | 1.98 | 22 | 1.79 | 2.86 | 22 | 1.28 | 1.83 |
| 24 | 1.24 | 1.95 | 24 | 1.46 | 2.15 | 24 | 1.26 | 1.90 | 24 | 1.70 | 2.72 | 24 | 1.22 | 1.75 |
| 26 | 1.18 | 1.87 | 26 | 1.39 | 2.06 | 26 | 1.22 | 1.82 | 26 | 1.62 | 2.60 | 26 | 1.18 | 1.69 |
| 28 | 1.14 | 1.80 | 28 | 1.34 | 1.98 | 28 | 1.17 | 1.76 | 28 | 1.56 | 2.49 | 28 | 1.13 | 1.63 |
| 30 | 1.10 | 1.73 | 30 | 1.29 | 1.90 | 30 | 1.13 | 1.70 | 30 | 1.49 | 2.39 | 30 | 1.10 | 1.57 |
| 32 | 1.06 | 1.67 | 32 | 1.24 | 1.84 | 32 | 1.10 | 1.64 | 32 | 1.44 | 2.30 | 32 | 1.06 | 1.52 |
| 34 | 1.03 | 1.62 | 34 | 1.20 | 1.78 | 34 | 1.06 | 1.59 | 34 | 1.39 | 2.22 | 34 | 1.03 | 1.48 |
| 36 | 1.00 | 1.57 | 36 | 1.17 | 1.72 | 36 | 1.03 | 1.55 | 36 | 1.34 | 2.15 | 36 | 1.00 | 1.44 |
| 38 | .97 | 1.53 | 38 | 1.13 | 1.67 | 38 | 1.01 | 1.51 | 38 | 1.30 | 2.09 | 38 | .98 | 1.40 |
| 40 | .94 | 1.49 | 40 | 1.10 | 1.62 | 40 | .98 | 1.47 | 40 | 1.27 | 2.02 | 40 | .95 | 1.37 |
| 45 | .89 | 1.40 | 45 | 1.03 | 1.52 | 45 | .92 | 1.39 | 45 | 1.18 | 1.89 | 45 | .90 | 1.29 |
| 50 | .84 | 1.32 | 50 | .97 | 1.44 | 50 | .88 | 1.31 | 50 | 1.11 | 1.78 | 50 | .85 | 1.22 |
| 55 | .80 | 1.26 | 55 | .92 | 1.36 | 55 | .84 | 1.25 | 55 | 1.05 | 1.68 | 55 | .81 | 1.17 |
| 60 | .76 | 1.20 | 60 | .88 | 1.30 | 60 | .80 | 1.20 | 60 | 1.00 | 1.60 | 60 | .78 | 1.12 |
| 65 | .73 | 1.15 | 65 | .84 | 1.24 | 65 | .77 | 1.15 | 65 | .95 | 1.53 | 65 | .75 | 1.08 |
| 70 | .70 | 1.11 | 70 | .81 | 1.19 | 70 | .74 | 1.11 | 70 | .91 | 1.46 | 70 | .72 | 1.04 |
| 75 | .68 | 1.07 | 75 | .78 | 1.15 | 75 | .72 | 1.07 | 75 | .88 | 1.41 | 75 | .70 | 1.00 |
| 80 | .65 | 1.03 | 80 | .75 | 1.11 | 80 | .69 | 1.04 | 80 | .85 | 1.35 | 80 | .68 | .97 |
| 85 | .63 | 1.00 | 85 | .73 | 1.07 | 85 | .67 | 1.01 | 85 | .82 | 1.31 | 85 | .66 | .94 |
| SLOPE = .530 | | | SLOPE = .550 | | | SLOPE = .500 | | | SLOPE = .580 | | | SLOPE = .490 | | |

RCFC & WCD

HYDROLOGY MANUAL

STANDARD INTENSITY-DURATION CURVES DATA

PLATE D-4.1 (4 of 6)

# RAINFALL INTENSITY–INCHES PER HOUR

| RIVERSIDE | | | RIVERSIDE (FOOTHILL AREAS) | | | RUBIDOUX | | | SAN JACINTO | | | SUN CITY | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | |
| | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR |
| 5 | 2.75 | 3.92 | 5 | 3.14 | 4.71 | 5 | 3.18 | 4.71 | 5 | 2.81 | 4.16 | 5 | 3.25 | 4.85 |
| 6 | 2.48 | 3.55 | 6 | 2.84 | 4.26 | 6 | 2.87 | 4.26 | 6 | 2.56 | 3.79 | 6 | 2.95 | 4.40 |
| 7 | 2.28 | 3.26 | 7 | 2.61 | 3.91 | 7 | 2.64 | 3.91 | 7 | 2.37 | 3.51 | 7 | 2.72 | 4.06 |
| 8 | 2.12 | 3.03 | 8 | 2.42 | 3.63 | 8 | 2.45 | 3.63 | 8 | 2.22 | 3.29 | 8 | 2.53 | 3.78 |
| 9 | 1.99 | 2.84 | 9 | 2.27 | 3.41 | 9 | 2.30 | 3.41 | 9 | 2.09 | 3.10 | 9 | 2.38 | 3.55 |
| 10 | 1.88 | 2.68 | 10 | 2.14 | 3.21 | 10 | 2.17 | 3.21 | 10 | 1.98 | 2.94 | 10 | 2.25 | 3.36 |
| 11 | 1.78 | 2.54 | 11 | 2.03 | 3.05 | 11 | 2.06 | 3.05 | 11 | 1.89 | 2.80 | 11 | 2.14 | 3.19 |
| 12 | 1.70 | 2.42 | 12 | 1.94 | 2.91 | 12 | 1.96 | 2.91 | 12 | 1.81 | 2.68 | 12 | 2.04 | 3.05 |
| 13 | 1.62 | 2.32 | 13 | 1.86 | 2.78 | 13 | 1.88 | 2.78 | 13 | 1.74 | 2.58 | 13 | 1.96 | 2.92 |
| 14 | 1.56 | 2.23 | 14 | 1.78 | 2.67 | 14 | 1.80 | 2.67 | 14 | 1.68 | 2.48 | 14 | 1.88 | 2.81 |
| 15 | 1.50 | 2.14 | 15 | 1.71 | 2.57 | 15 | 1.74 | 2.57 | 15 | 1.62 | 2.40 | 15 | 1.81 | 2.71 |
| 16 | 1.45 | 2.07 | 16 | 1.66 | 2.48 | 16 | 1.68 | 2.48 | 16 | 1.57 | 2.32 | 16 | 1.75 | 2.62 |
| 17 | 1.40 | 2.00 | 17 | 1.60 | 2.40 | 17 | 1.62 | 2.40 | 17 | 1.52 | 2.25 | 17 | 1.70 | 2.54 |
| 18 | 1.36 | 1.94 | 18 | 1.55 | 2.33 | 18 | 1.57 | 2.33 | 18 | 1.48 | 2.19 | 18 | 1.65 | 2.46 |
| 19 | 1.32 | 1.88 | 19 | 1.51 | 2.26 | 19 | 1.52 | 2.26 | 19 | 1.44 | 2.13 | 19 | 1.60 | 2.39 |
| 20 | 1.28 | 1.83 | 20 | 1.46 | 2.20 | 20 | 1.48 | 2.20 | 20 | 1.40 | 2.08 | 20 | 1.56 | 2.33 |
| 22 | 1.22 | 1.74 | 22 | 1.39 | 2.08 | 22 | 1.41 | 2.08 | 22 | 1.34 | 1.98 | 22 | 1.48 | 2.21 |
| 24 | 1.16 | 1.66 | 24 | 1.32 | 1.99 | 24 | 1.34 | 1.99 | 24 | 1.28 | 1.90 | 24 | 1.41 | 2.11 |
| 26 | 1.11 | 1.58 | 26 | 1.27 | 1.90 | 26 | 1.28 | 1.90 | 26 | 1.23 | 1.82 | 26 | 1.36 | 2.03 |
| 28 | 1.06 | 1.52 | 28 | 1.22 | 1.82 | 28 | 1.23 | 1.82 | 28 | 1.19 | 1.76 | 28 | 1.30 | 1.95 |
| 30 | 1.02 | 1.46 | 30 | 1.17 | 1.76 | 30 | 1.19 | 1.76 | 30 | 1.15 | 1.70 | 30 | 1.26 | 1.88 |
| 32 | .99 | 1.41 | 32 | 1.13 | 1.70 | 32 | 1.14 | 1.70 | 32 | 1.11 | 1.64 | 32 | 1.21 | 1.81 |
| 34 | .96 | 1.37 | 34 | 1.09 | 1.64 | 34 | 1.11 | 1.64 | 34 | 1.08 | 1.59 | 34 | 1.18 | 1.76 |
| 36 | .93 | 1.32 | 36 | 1.06 | 1.59 | 36 | 1.07 | 1.59 | 36 | 1.05 | 1.55 | 36 | 1.14 | 1.70 |
| 38 | .90 | 1.29 | 38 | 1.03 | 1.54 | 38 | 1.04 | 1.54 | 38 | 1.02 | 1.51 | 38 | 1.11 | 1.66 |
| 40 | .87 | 1.25 | 40 | 1.00 | 1.50 | 40 | 1.01 | 1.50 | 40 | .99 | 1.47 | 40 | 1.08 | 1.61 |
| 45 | .82 | 1.17 | 45 | .94 | 1.41 | 45 | .95 | 1.41 | 45 | .94 | 1.39 | 45 | 1.01 | 1.51 |
| 50 | .77 | 1.11 | 50 | .88 | 1.33 | 50 | .90 | 1.33 | 50 | .89 | 1.31 | 50 | .96 | 1.43 |
| 55 | .73 | 1.05 | 55 | .84 | 1.26 | 55 | .85 | 1.26 | 55 | .85 | 1.25 | 55 | .91 | 1.36 |
| 60 | .70 | 1.00 | 60 | .80 | 1.20 | 60 | .81 | 1.20 | 60 | .81 | 1.20 | 60 | .87 | 1.30 |
| 65 | .67 | .96 | 65 | .77 | 1.15 | 65 | .78 | 1.15 | 65 | .78 | 1.15 | 65 | .83 | 1.25 |
| 70 | .64 | .92 | 70 | .73 | 1.10 | 70 | .74 | 1.10 | 70 | .75 | 1.11 | 70 | .80 | 1.20 |
| 75 | .62 | .88 | 75 | .71 | 1.06 | 75 | .72 | 1.06 | 75 | .72 | 1.07 | 75 | .77 | 1.15 |
| 80 | .60 | .85 | 80 | .68 | 1.02 | 80 | .69 | 1.02 | 80 | .70 | 1.04 | 80 | .75 | 1.12 |
| 85 | .58 | .83 | 85 | .66 | .99 | 85 | .67 | .99 | 85 | .68 | 1.01 | 85 | .72 | 1.08 |
| SLOPE = .550 | | | SLOPE = .550 | | | SLOPE = .550 | | | SLOPE = .500 | | | SLOPE = .530 | | |

**RCFC & WCD**

HYDROLOGY MANUAL

STANDARD INTENSITY–DURATION CURVES DATA

PLATE D-4.1(5 of 6)

# RAINFALL INTENSITY—INCHES PER HOUR

| SUNNYMEAD - MORENO | | | WOODCREST | | |
|---|---|---|---|---|---|
| DURATION MINUTES | FREQUENCY | | DURATION MINUTES | FREQUENCY | |
| | 10 YEAR | 100 YEAR | | 10 YEAR | 100 YEAR |
| 5 | 2.84 | 4.16 | 5 | 3.37 | 5.30 |
| 6 | 2.59 | 3.79 | 6 | 3.05 | 4.79 |
| 7 | 2.40 | 3.51 | 7 | 2.80 | 4.40 |
| 8 | 2.25 | 3.29 | 8 | 2.60 | 4.09 |
| 9 | 2.12 | 3.10 | 9 | 2.44 | 3.83 |
| 10 | 2.01 | 2.94 | 10 | 2.30 | 3.62 |
| 11 | 1.92 | 2.80 | 11 | 2.19 | 3.43 |
| 12 | 1.83 | 2.68 | 12 | 2.08 | 3.27 |
| 13 | 1.76 | 2.58 | 13 | 1.99 | 3.13 |
| 14 | 1.70 | 2.48 | 14 | 1.91 | 3.01 |
| 15 | 1.64 | 2.40 | 15 | 1.84 | 2.89 |
| 16 | 1.59 | 2.32 | 16 | 1.78 | 2.79 |
| 17 | 1.54 | 2.25 | 17 | 1.72 | 2.70 |
| 18 | 1.50 | 2.19 | 18 | 1.67 | 2.62 |
| 19 | 1.46 | 2.13 | 19 | 1.62 | 2.54 |
| 20 | 1.42 | 2.08 | 20 | 1.57 | 2.47 |
| 22 | 1.35 | 1.98 | 22 | 1.49 | 2.34 |
| 24 | 1.30 | 1.90 | 24 | 1.42 | 2.23 |
| 26 | 1.25 | 1.82 | 26 | 1.36 | 2.14 |
| 28 | 1.20 | 1.76 | 28 | 1.31 | 2.05 |
| 30 | 1.16 | 1.70 | 30 | 1.26 | 1.98 |
| 32 | 1.12 | 1.64 | 32 | 1.22 | 1.91 |
| 34 | 1.09 | 1.59 | 34 | 1.19 | 1.85 |
| 36 | 1.06 | 1.55 | 36 | 1.14 | 1.79 |
| 38 | 1.03 | 1.51 | 38 | 1.11 | 1.74 |
| 40 | 1.00 | 1.47 | 40 | 1.07 | 1.69 |
| 45 | .95 | 1.39 | 45 | 1.01 | 1.58 |
| 50 | .90 | 1.31 | 50 | .95 | 1.49 |
| 55 | .86 | 1.25 | 55 | .90 | 1.42 |
| 60 | .82 | 1.20 | 60 | .86 | 1.35 |
| 65 | .79 | 1.15 | 65 | .82 | 1.29 |
| 70 | .76 | 1.11 | 70 | .79 | 1.24 |
| 75 | .73 | 1.07 | 75 | .76 | 1.19 |
| 80 | .71 | 1.04 | 80 | .73 | 1.15 |
| 85 | .69 | 1.01 | 85 | .71 | 1.11 |
| SLOPE = .500 | | | SLOPE = .550 | | |

STANDARD
INTENSITY-DURATION
CURVES DATA

SITE (0.56")

NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI – California, 1973

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HYDROLOGY MANUAL

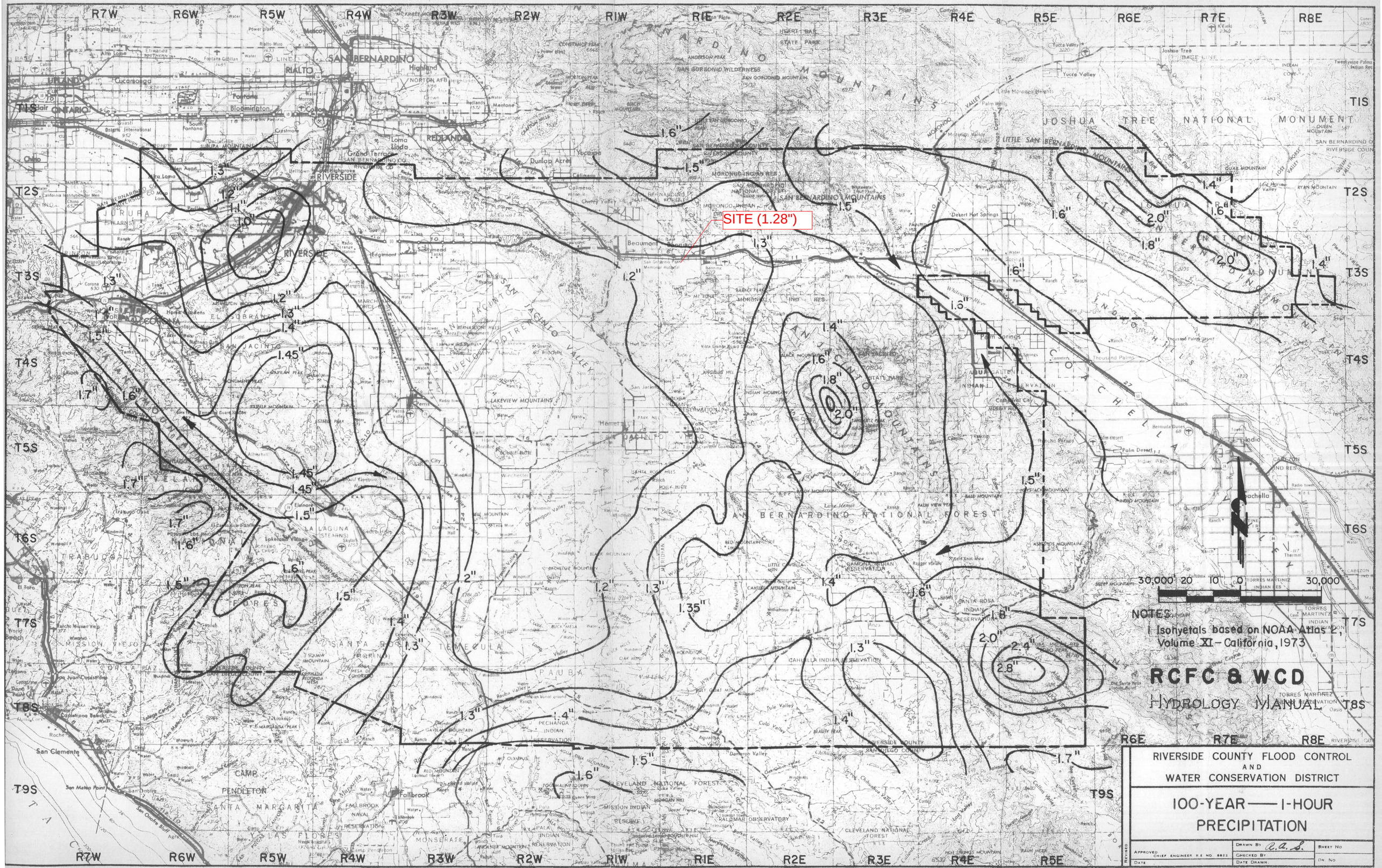
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

2-YEAR — 1-HOUR PRECIPITATION

| | | |
|---|---|---|
| APPROVED CHIEF ENGINEER R.E. NO. 8822 | DRAWN BY R.A.S. | SHEET NO. |
| DATE | CHECKED BY | DR. NO. |
| | DATE DRAWN: | |

REVISED

PLATE D-4.3


SITE (1.28")
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
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HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 1-HOUR PRECIPITATION
PLATE D-4.4

SITE (0.96")

NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973.

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RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

2-YEAR — 3-HOUR PRECIPITATION

| | | |
|---|---|---|
| APPROVED CHIEF ENGINEER R.E. NO. 8822 | DRAWN BY: R.A.S. | SHEET NO. |
| DATE | CHECKED BY: | DR. NO. |
| | DATE DRAWN: | |

REVISED

PLATE E-5.1

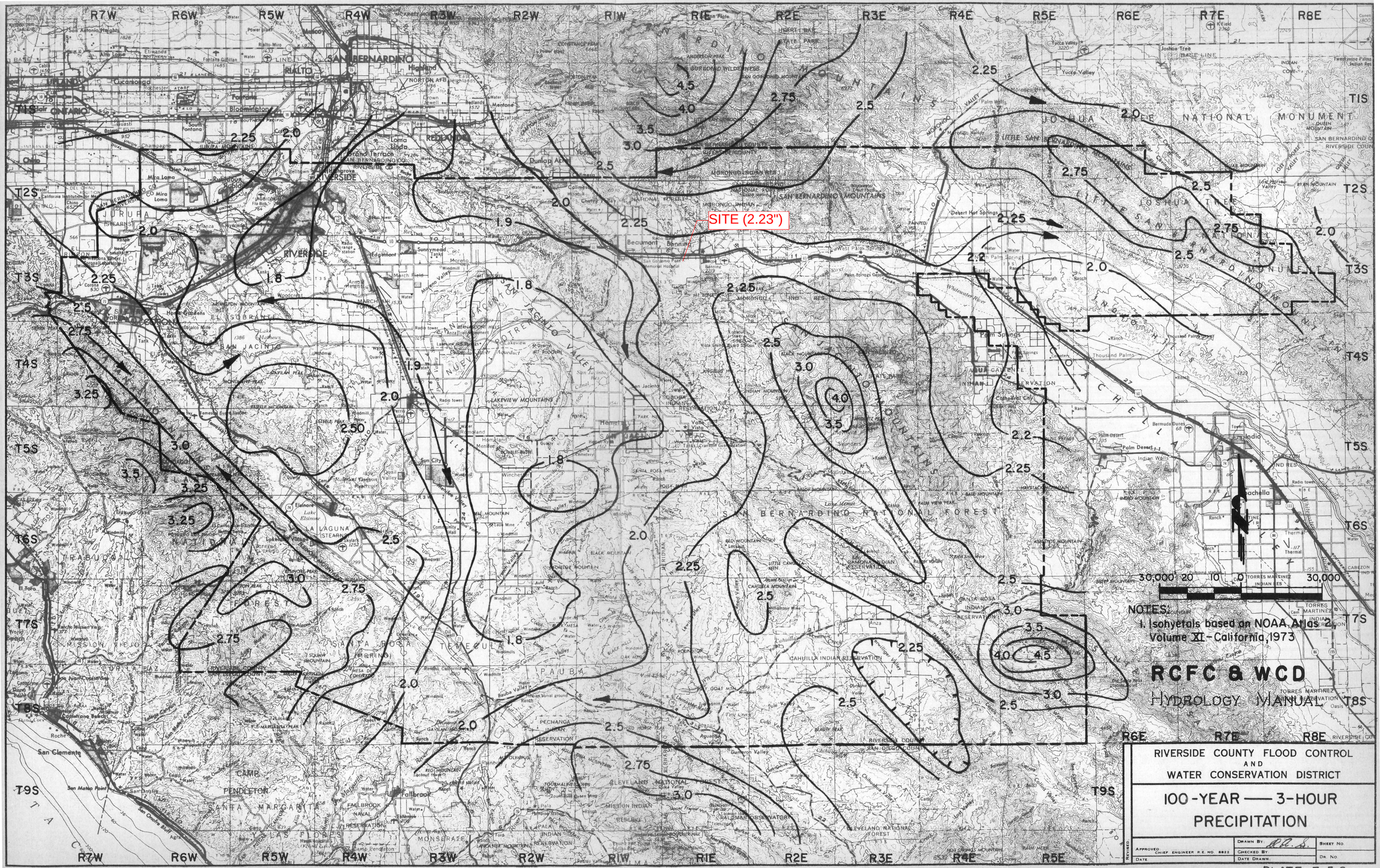
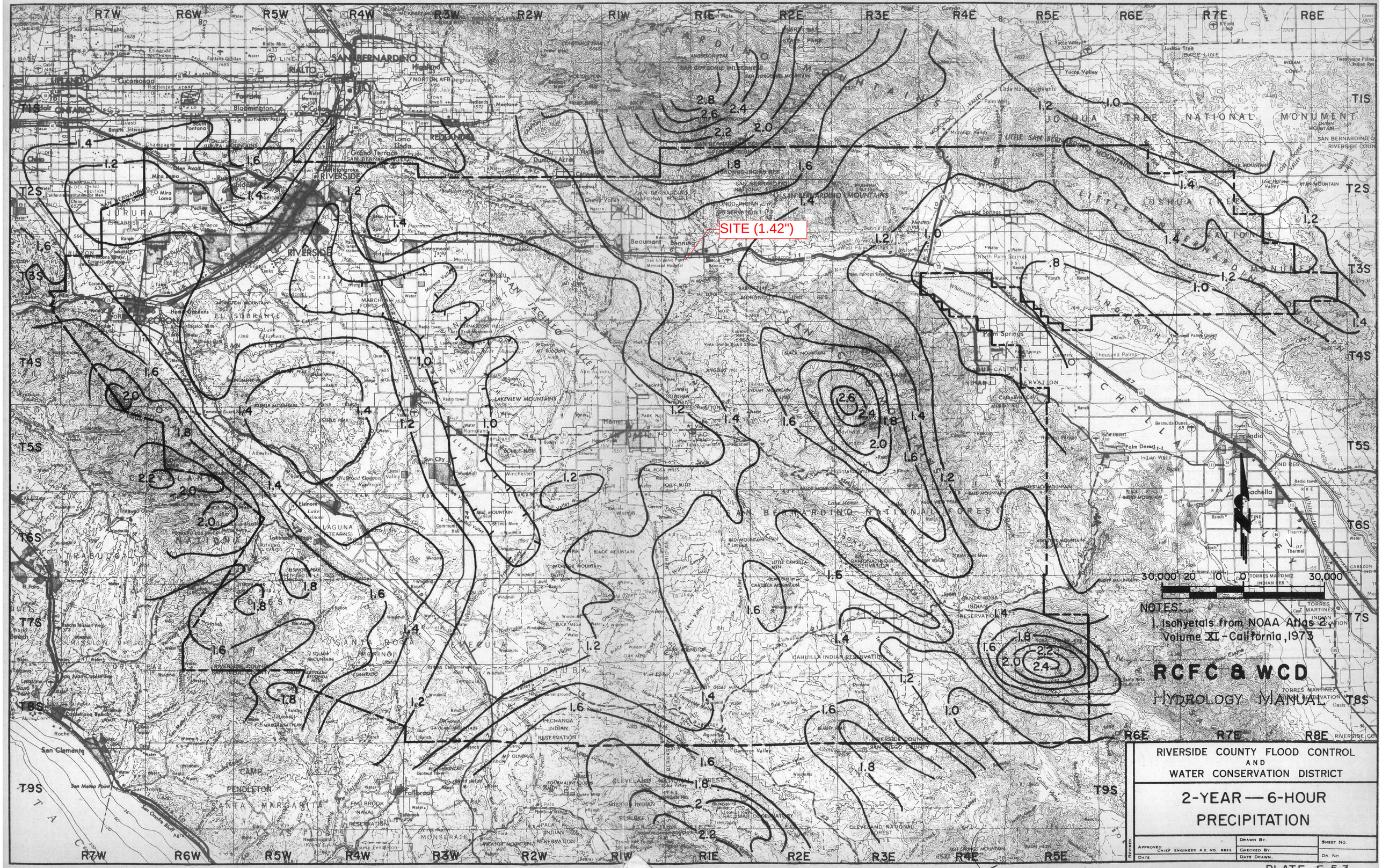

SITE (2.23")
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 3-HOUR PRECIPITATION
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
DRAWN BY R.R.S.
CHECKED BY
DATE DRAWN
SHEET NO
DR. NO
REVISED

PLATE E-5.2


SITE (1.42")
NOTES:
1. Isohyetals from NOAA Atlas 2 Volume XI - California, 1973
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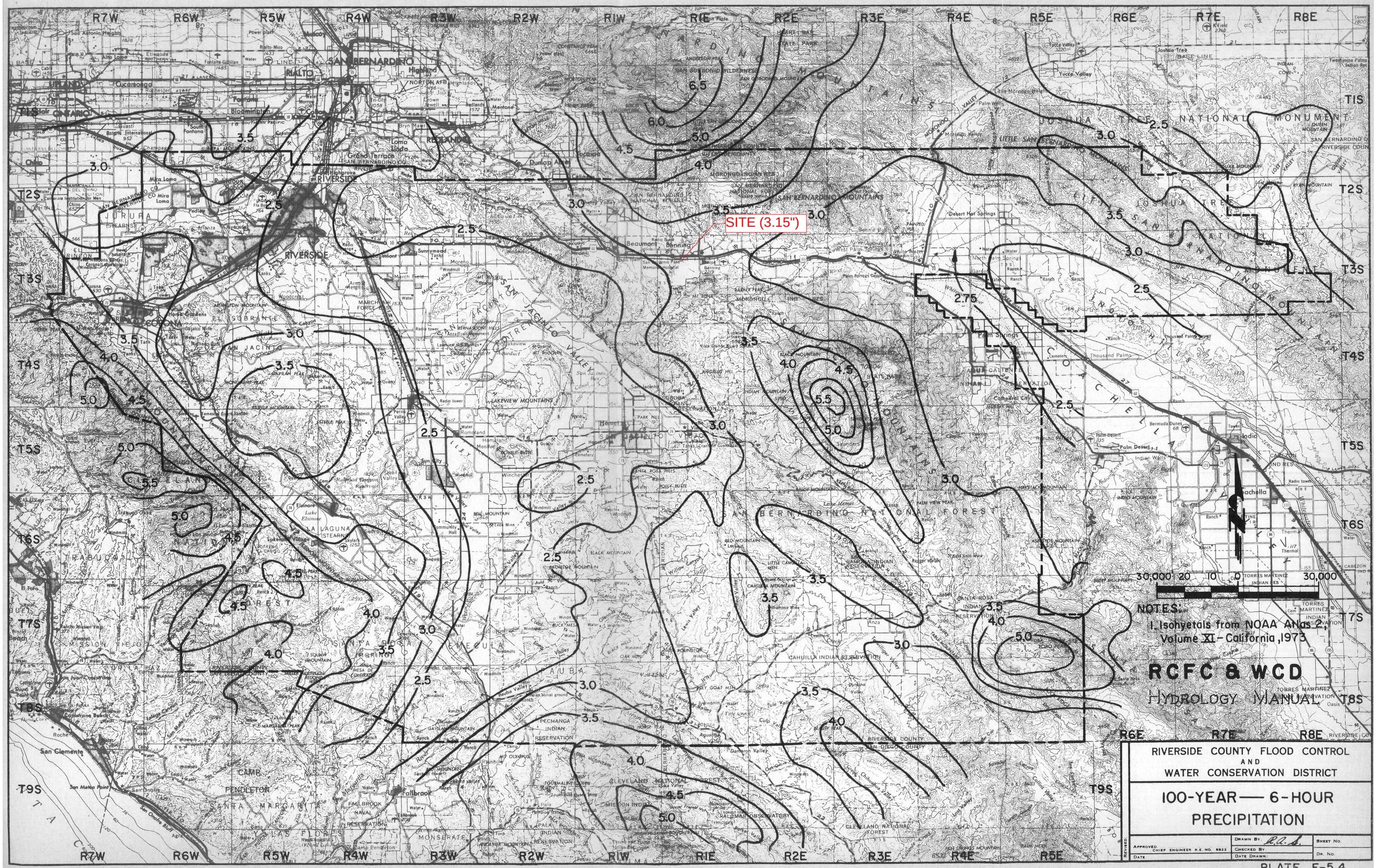
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 6-HOUR PRECIPITATION
PLATE E-5.3


SITE (3.15")
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973
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HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 6-HOUR PRECIPITATION
PLATE E-5.4

SITE (2.65")

NOTES:
1. Isohyetals from NOAA Atlas 2
Volume XI - California, 1973.

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HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

2-YEAR — 24-HOUR
PRECIPITATION

| | | |
|---|---|---|
| APPROVED CHIEF ENGINEER R.E. NO. 8822 | DRAWN BY R.A.S. | SHEET NO. |
| DATE | CHECKED BY | DR. NO. |
| REVISED | DATE DRAWN | |

PLATE E-5.5

SITE (6.95")

NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.

RCFC & WCD
HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

100-YEAR — 24-HOUR PRECIPITATION

| | | |
|---|---|---|
| APPROVED CHIEF ENGINEER R.E. NO. 8822 | DRAWN BY: | SHEET NO. |
| DATE | CHECKED BY: | DR. NO. |
| REVISED | DATE DRAWN: | |

PLATE E-5.6

SITE (0.50)

NOTES

1. Slope of Intensity-Duration Curve based on District analysis of automatic recording rain gage records.

RCFC & WCD

HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

SLOPE OF INTENSITY DURATION CURVE

| | | |
|---|---|---|
| REVISED | DRAWN BY R.A.S. | SHEET NO. |
| APPROVED CHIEF ENGINEER R.E. NO. 5822 | CHECKED BY | DR. NO. |
| DATE | DATE DRAWN | |

PLATE D-4.6

# EXHIBIT “E”

Watershed Losses

Watershed Hydrologic Soil Groups

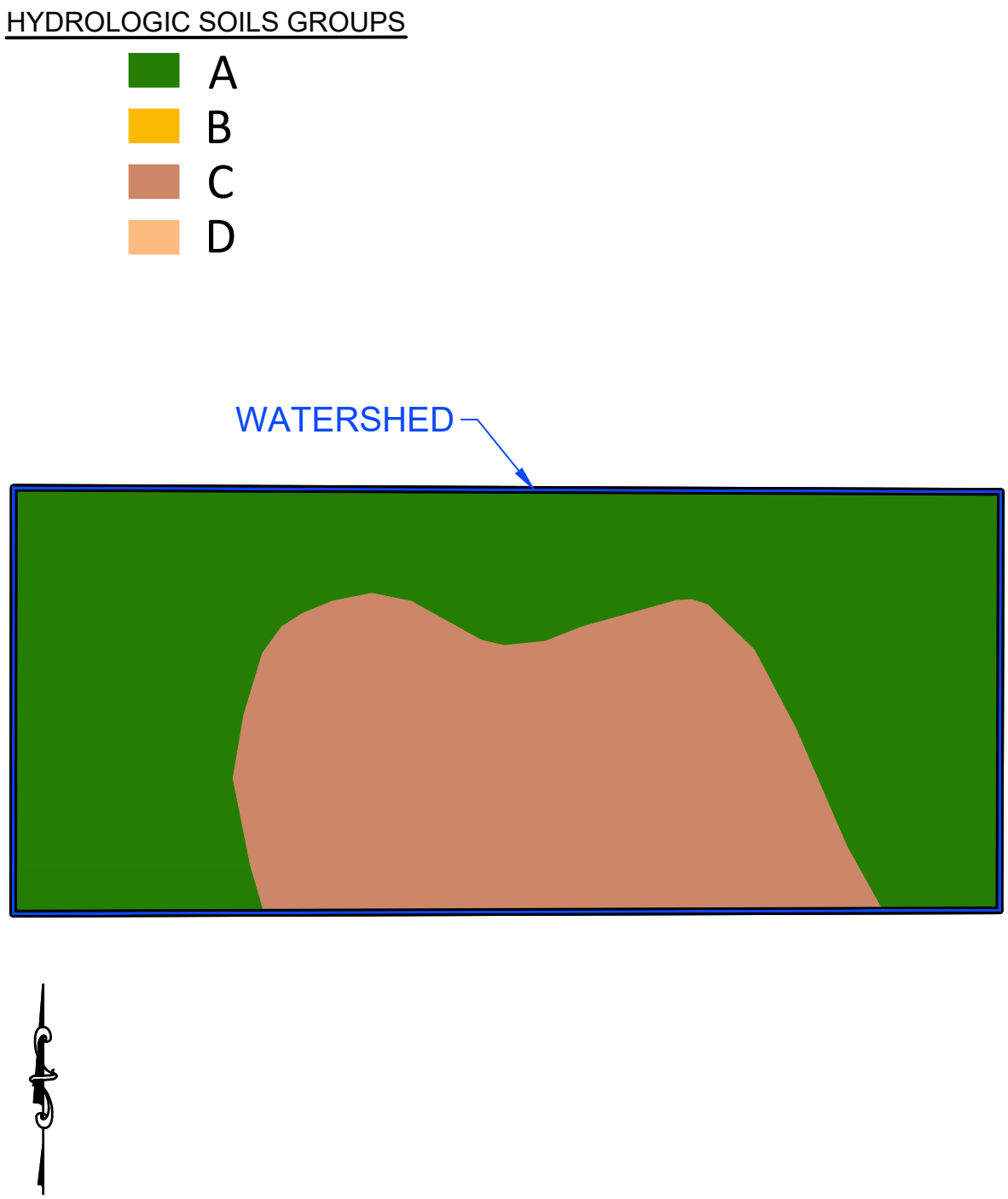
Watershed Cover Type
&
Impervious Cover

NRCS Soils Data

# EXHIBIT "E.1"

## WATERSHED HYDROLOGIC SOIL GROUPS

(SOURCE: NRCS WEB SOIL SURVEY)




PREPARED BY:

BONADIMAN

TEL. (909) 885-3606

CIVILDESIGN

| | | |
|---|---|---|
| WATERSHED HYDROLOGIC SOIL GROUPS<br>BROWN STRAUSS STEEL<br>CITY OF BANNING, CA 92220 | | E.1 |
| DISREGARD PRINTS BEARING EARLIER REVISION DATES | 03-06-23 | SHEET 1 OF 1 |

## COVER TYPE DESCRIPTIONS

NATURAL COVERS -

Barren - Areas with 15 percent or less of the ground surface covered by plants or litter. It includes rockland, eroded land, and shaped or graded land. Barren land does not include fallow land.

Chaparral, Broadleaf - Areas on which the principal vegetation consists of evergreen shrubs with broad, hard, stiff leaves such as manzonita, ceanothus and scrub oak. The brush cover is usually dense or moderately dense.

Chaparral, Narrowleaf - Land on which the principal vegetation consists of diffusely branched evergreen shrubs with fine needle-like leaves such as chamise and redshank. The shrubs are usually widely spaced and low in growth. If the narrowleaf chaparral shrubs are dense and high; the land should be included with broadleaf chaparral cover.

Grass, Annual - Land on which the principal vegetation consists of annual grasses and weeds such as annual bromes, wild barley, soft chess, ryegrass and filaree.

Grass, Perennial - Areas on which the principal vegetation consists of perennial grass, either native or introduced, and which grows under normal dryland conditions. Examples are Stipa or needle grass, Harding grass and wheat grass. It does not include irrigated and meadow grasses.

Meadow - Land areas with seasonally high water table, often called cienegas. Principal vegetation consists of sod-forming grasses interspersed with other plants.

Open Brush - Principal vegetation consists of soft wood shrubs, usually grayish in color. Examples include California buckwheat, California sagebrush, black sage, white sage and purple sage. It also includes vegetation on desert facing slopes where broadleaf chaparral predominate in an open shrub cover.

Woodland - Areas on which coniferous or broadleaf trees predominate. The crown or canopy density, the amount of ground surface shaded at high noon, is at least 50 percent. Open areas may have a cover of annual or perennial grasses or of brush. Plant cover under the trees is usually sparse because of leaf or needle litter accumulation.

Woodland, Grass - Areas with an open cover of broadleaf or coniferous trees usually live oak and pines, with the intervening ground space occupied by annual grasses or weeds. The trees may occur singly or in small clumps. Canopy density, the amount of ground surface shaded at high noon, is from 20 to 50 percent.

URBAN COVERS -

Residential or Commercial Landscaping - The pervious portions of commercial establishments, single and multiple family dwellings, trailer parks and schools where the predominant land cover is lawn, shrubbery and trees.

## COVER TYPE DESCRIPTIONS

URBAN COVERS (cont.) -

Turf - Golf courses, parks, cemeteries, and similar lands where the predominant cover is irrigated mowed close-grown turf grass. Parks in which trees are dense may be classified as woodland.

AGRICULTURAL COVER -

Fallow - Fallow land is land plowed but not yet seeded or tilled. It is more effective than barren land in reducing storm runoff.

Legumes, Close Seeded - Alfalfa, sweetclover, timothy, etc. and combinations, either planted in close rows or broadcast.

Orchards, Deciduous - Land planted to such deciduous trees as apples, apricots, pears, walnuts and almonds. The ground cover during the rainy reason alters the hydrologic response to storm rainfall. Ground cover may be annual grass or perennial grass with or without legumes. Occasionally legumes are used alone. Use runoff index numbers which apply to the land use or the kind and condition of cover during storm periods. If orchards are kept bare by disking, or through the use of herbicides, fallow applies.

Orchards, Evergreen - Land planted to evergreen trees which include citrus and avocado orchards and coniferous plantings. The effectiveness of this kind of land use is in part determined by the tree, the litter and the ground cover. In these groves the ground cover may be legumes alone or annual or perennial grasses with or without legumes. The ground cover may be entirely litter if the tree canopy is sufficiently dense to produce a substantial quantity of fallen leaves or needles. As with deciduous orchards, management practices affect the runoff potential of evergreen orchards.

Pasture, Dryland - Equivalent to annual grass. Land on which the principal vegetation consists of annual grasses and weeds such as annual bromes, wild barley, soft chess, ryegrass and filaree.

Pasture, Irrigated - Irrigated land planted to perennial grasses and legumes for production of forage and which is cultivated only to establish or renew the stand of plants.

Row Crops - Lettuce, tomatoes, sugar beets, tulips or any field crop planted in rows far enough apart that most of the soil surface is exposed to rainfall impact throughout the growing season. At plowing, planting and harvest times it is equivalent to fallow.

Small Grain - Wheat, oats, barley, flax, etc. planted in rows close enough that the soil surface is not exposed except during planting and shortly thereafter.

Vineyards - As with orchards, ground cover and land condition must be considered in estimating runoff potential. Use runoff index numbers which apply to the kind and condition of cover. For example either annual grass or fallow may apply.

Reference: Bibliography item No. 17.

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HYDROLOGY MANUAL

COVER TYPE DESCRIPTIONS

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

| Cover Type (3) | Quality of Cover (2) | Soil Group A | B | C | D |
|---|---|---|---|---|---|
| NATURAL COVERS - | | | | | |
| Barren (Rockland, eroded and graded land) | | 78 | 86 | 91 | 93 |
| Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak) | Poor | 53 | 70 | 80 | 85 |
| | Fair | 40 | 63 | 75 | 81 |
| | Good | 31 | 57 | 71 | 78 |
| Chaparrel, Narrowleaf (Chamise and redshank) | Poor | 71 | 82 | 88 | 91 |
| | Fair | 55 | 72 | 81 | 86 |
| Grass, Annual or Perennial | Poor | 67 | 78 | 86 | 89 |
| | Fair | 50 | 69 | 79 | 84 |
| | Good | 38 | 61 | 74 | 80 |
| Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass) | Poor | 63 | 77 | 85 | 88 |
| | Fair | 51 | 70 | 80 | 84 |
| | Good | 30 | 58 | 72 | 78 |
| Open Brush (Soft wood shrubs - buckwheat, sage, etc.) | Poor | 62 | 76 | 84 | 88 |
| | Fair | 46 | 66 | 77 | 83 |
| | Good | 41 | 63 | 75 | 81 |
| Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent) | Poor | 45 | 66 | 77 | 83 |
| | Fair | 36 | 60 | 73 | 79 |
| | Good | 28 | 55 | 70 | 77 |
| Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent) | Poor | 57 | 73 | 82 | 86 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| URBAN COVERS - | | | | | |
| Residential or Commercial Landscaping (Lawn, shrubs, etc.) | Good | 32 | 56 | 69 | 75 |
| Turf (Irrigated and mowed grass) | Poor | 58 | 74 | 83 | 87 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| AGRICULTURAL COVERS - | | | | | |
| Fallow (Land plowed but not tilled or seeded) | | 76 | 85 | 90 | 92 |

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RUNOFF INDEX NUMBERS FOR PERVIOUS AREA

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

| Cover Type (3) | Quality of Cover (2) | Soil Group A | B | C | D |
|---|---|---|---|---|---|
| AGRICULTURAL COVERS (cont.) - | | | | | |
| Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.) | Poor | 66 | 77 | 85 | 89 |
| | Good | 58 | 72 | 81 | 85 |
| Orchards, Deciduous (Apples, apricots, pears, walnuts, etc.) | | See Note 4 | | | |
| Orchards, Evergreen (Citrus, avocados, etc.) | Poor | 57 | 73 | 82 | 86 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| Pasture, Dryland (Annual grasses) | Poor | 67 | 78 | 86 | 89 |
| | Fair | 50 | 69 | 79 | 84 |
| | Good | 38 | 61 | 74 | 80 |
| Pasture, Irrigated (Legumes and perennial grass) | Poor | 58 | 74 | 83 | 87 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| Row Crops (Field crops - tomatoes, sugar beets, etc.) | Poor | 72 | 81 | 88 | 91 |
| | Good | 67 | 78 | 85 | 89 |
| Small Grain (Wheat, oats, barley, etc.) | Poor | 65 | 76 | 84 | 88 |
| | Good | 63 | 75 | 83 | 87 |
| Vineyard | | See Note 4 | | | |

Notes:

1. All runoff index (RI) numbers are for Antecedent Moisture Condition (AMC) II.

2. Quality of cover definitions:
   Poor-Heavily grazed or regularly burned areas. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.
   Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.
   Good-Heavy or dense cover with more than 75 percent of the ground surface protected.

3. See Plate C-2 for a detailed description of cover types.

4. Use runoff index numbers based on ground cover type. See discussion under "Cover Type Descriptions" on Plate C-2.

5. Reference Bibliography item 17.

ACTUAL IMPERVIOUS COVER

| Land Use (1) | Range-Percent | Recommended Value For Average Conditions-Percent(2) |
|---|---|---|
| Natural or Agriculture | 0 - 10 | 0 |
| Single Family Residential: (3) | | |
| 40,000 S. F. (1 Acre) Lots | 10 - 25 | 20 |
| 20,000 S. F. (½ Acre) Lots | 30 - 45 | 40 |
| 7,200 - 10,000 S. F. Lots | 45 - 55 | 50 |
| Multiple Family Residential: | | |
| Condominiums | 45 - 70 | 65 |
| Apartments | 65 - 90 | 80 |
| Mobile Home Park | 60 - 85 | 75 |
| Commercial, Downtown Business or Industrial | 80 -100 | 90 |

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.

2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area should always be made, and a review of aerial photos, where available may assist in estimating the percentage of impervious cover in developed areas.

3. For typical horse ranch subdivisions increase impervious area 5 percent over the values recommended in the table above.

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IMPERVIOUS COVER FOR DEVELOPED AREAS

PLATE D-5.6

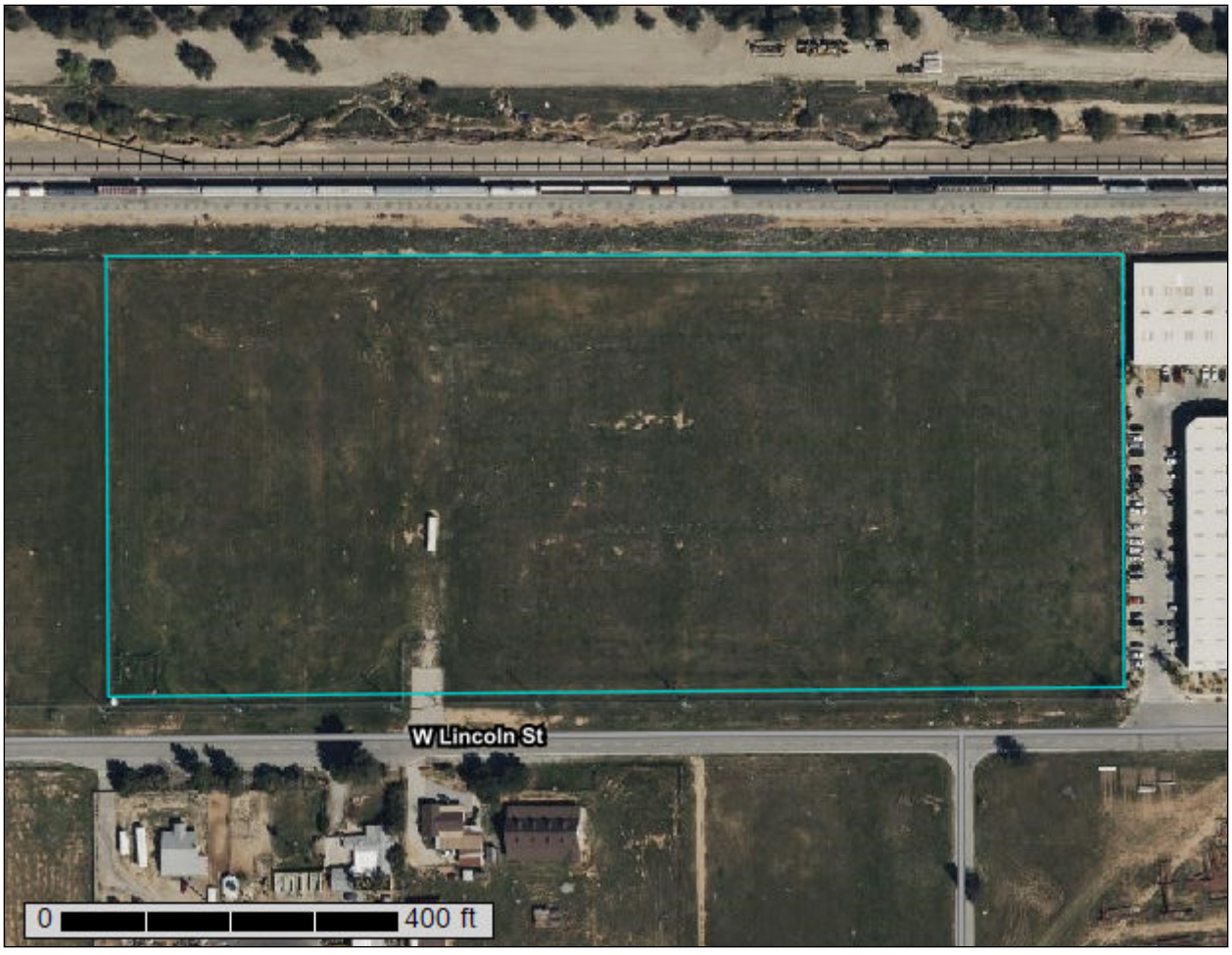
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Western Riverside Area, California




February 6, 2023

# Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.




Map Scale: 1:2,020 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 15, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 15, 2022—May 28, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| GyC2 | Greenfield sandy loam, 2 to 8 percent slopes, eroded | 8.6 | 60.5% |
| RaB2 | Ramona sandy loam, 2 to 5 percent slopes, eroded | 5.6 | 39.5% |
| **Totals for Area of Interest** | | **14.3** | **100.0%** |

# Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

# Western Riverside Area, California

## GyC2—Greenfield sandy loam, 2 to 8 percent slopes, eroded

### Map Unit Setting

*National map unit symbol:* hcvw
*Elevation:* 100 to 3,500 feet
*Mean annual precipitation:* 9 to 20 inches
*Mean annual air temperature:* 63 degrees F
*Frost-free period:* 200 to 300 days
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Greenfield and similar soils:* 85 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Greenfield

#### Setting

*Landform:* Terraces, alluvial fans
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium derived from granite

#### Typical profile

*H1 - 0 to 26 inches:* sandy loam
*H2 - 26 to 43 inches:* fine sandy loam
*H3 - 43 to 60 inches:* loam
*H4 - 60 to 72 inches:* stratified loamy sand to sandy loam

#### Properties and qualities

*Slope:* 2 to 8 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Runoff class:* Low
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* Moderate (about 8.3 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 2e
*Land capability classification (nonirrigated):* 3e
*Hydrologic Soil Group:* A
*Ecological site:* R019XD029CA - LOAMY
*Hydric soil rating:* No

### Minor Components

#### Pachappa

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

**Arlington**

*Percent of map unit:* 3 percent
*Hydric soil rating:* No

**Unnamed**

*Percent of map unit:* 3 percent
*Hydric soil rating:* No

**Ramona**

*Percent of map unit:* 3 percent
*Hydric soil rating:* No

**Hanford**

*Percent of map unit:* 3 percent
*Hydric soil rating:* No

## RaB2—Ramona sandy loam, 2 to 5 percent slopes, eroded

### Map Unit Setting

*National map unit symbol:* hcy5
*Elevation:* 250 to 3,500 feet
*Mean annual precipitation:* 10 to 20 inches
*Mean annual air temperature:* 63 degrees F
*Frost-free period:* 230 to 320 days
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Ramona and similar soils:* 85 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Ramona

#### Setting

*Landform:* Terraces, alluvial fans
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium derived from granite

#### Typical profile

*H1 - 0 to 14 inches:* sandy loam
*H2 - 14 to 23 inches:* fine sandy loam
*H3 - 23 to 68 inches:* sandy clay loam
*H4 - 68 to 74 inches:* gravelly sandy loam

#### Properties and qualities

*Slope:* 2 to 5 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained

*Runoff class:* Low
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Calcium carbonate, maximum content:* 1 percent
*Available water supply, 0 to 60 inches:* Moderate (about 8.1 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 2e
*Land capability classification (nonirrigated):* 3e
*Hydrologic Soil Group:* C
*Ecological site:* R019XD029CA - LOAMY
*Hydric soil rating:* No

**Minor Components**

**Hanford**

*Percent of map unit:* 4 percent
*Hydric soil rating:* No

**Arlington**

*Percent of map unit:* 4 percent
*Hydric soil rating:* No

**Greenfield**

*Percent of map unit:* 4 percent
*Hydric soil rating:* No

**Tujunga**

*Percent of map unit:* 3 percent
*Hydric soil rating:* No

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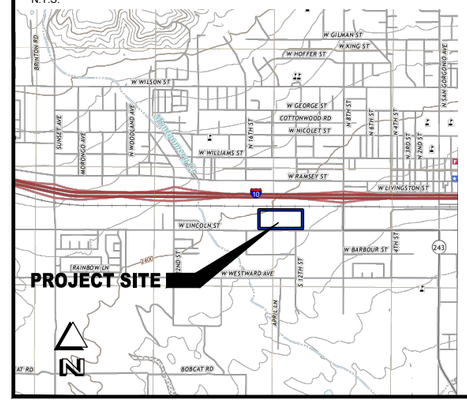
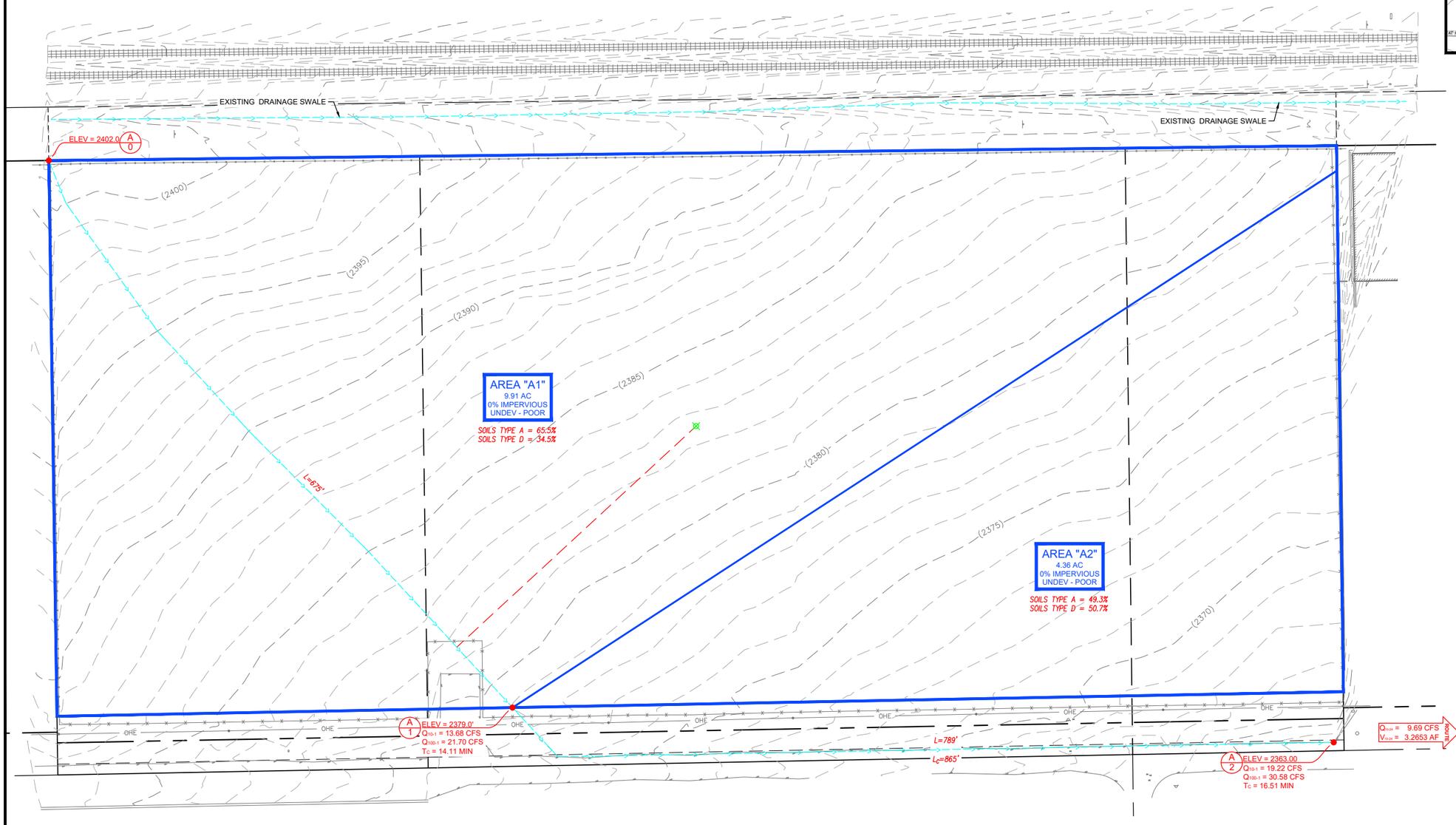
# EXHIBIT “F”

Existing On-site
Hydrologic Conditions Study Map

# EXHIBIT "F"
# EXISTING ON-SITE HYDROLOGIC CONDITIONS
## BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220

VICINITY MAP
N.T.S.




**MAP LEGEND**

AREA "A"
1.00 AC
20% IMPERVIOUS
1 AC LOTS

DRAINAGE AREA, SIZE, %, IMPERVIOUS, & CLOSEST APPROXIMATED CLASSIFICATION

A
1
ELEV = 100.00
$Q_{100}$ = 1.0CFS

NODE LOCATION, ELEVATION, & TOTAL PEAK $Q_{100\text{-HOUR}}$

$Q_{100\text{-}24}$ = 1 CFS
$V_{100\text{-}24}$ = 1 AF
4 HOURS

UNIT HYDROGRAPH METHOD TOTAL PEAK $Q_{100\text{-}24}$

DRAINAGE AREA LIMITS

FLOW PATHS

DRAINAGE AREA CENTROIDS

50 0 50 100 150
SCALE: 1"=50'

EXISTING CONDITION EXHIBIT
BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220

PREPARED BY:
BONADIMAN
CIVILDESIGN

PREPARED FOR:

| BY | MARK | REVISION DESCRIPTION | DATE |
|---|---|---|---|

| | |
|---|---|
| PREPARED FOR: | BROWN STRAUSS STEEL |
| JOB NO: | 225047 |
| PREPARED BY: | JTS |
| CHECKED BY: | JTS |

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EXISTING CONDITION EXHIBIT
BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220

F

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 03-06-23

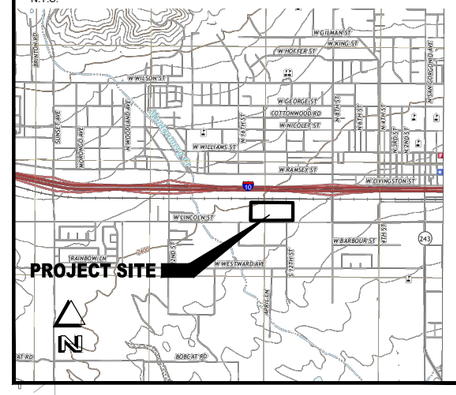
SHEET 1 OF 1

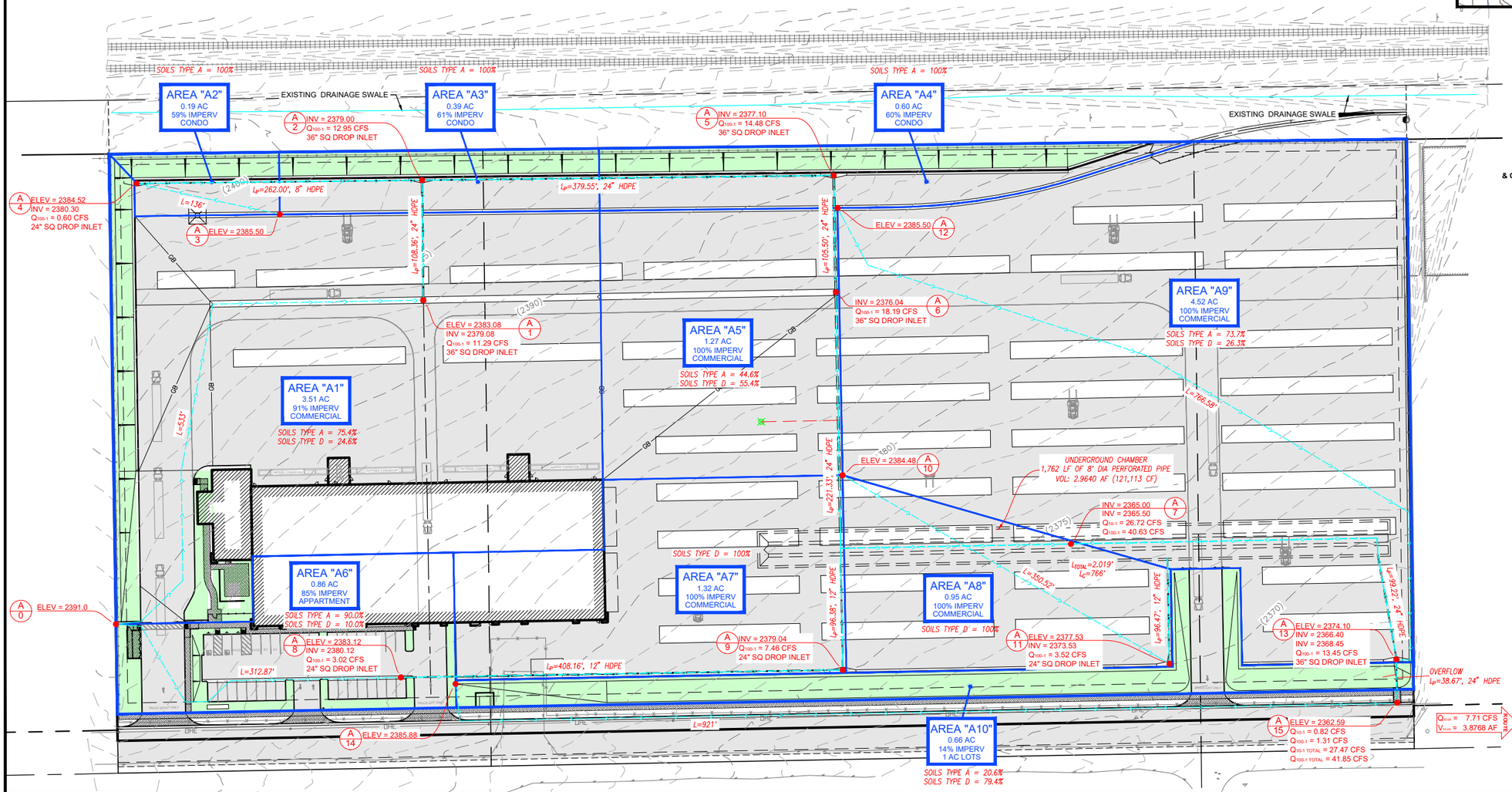
# EXHIBIT “G”

Developed On-Site
Hydrologic Conditions Study Map

# EXHIBIT "G"
# PROPOSED ON-SITE HYDROLOGIC CONDITIONS
## BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220

VICINITY MAP
N.T.S.




### MAP LEGEND

AREA "A"
1.00 AC
20% IMPERVIOUS
1 AC LOTS

DRAINAGE AREA, SIZE, % IMPERVIOUS, & CLOSEST APPROXIMATED CLASSIFICATION

A 1 ELEV = 100.00 Q100 = 1.0CFS

NODE LOCATION, ELEVATION, & TOTAL PEAK $Q_{100\text{-HOUR}}$

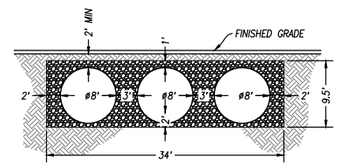
$Q_{100}$ = 1 CFS
$V_{100}$ = 1 AF
OUTLET

UNIT HYDROGRAPH METHOD TOTAL PEAK $Q_{100\text{-}24}$

DRAINAGE AREA LIMITS

FLOW PATHS

DRAINAGE AREA CENTROIDS




UNDERGROUND CHAMBER
N.T.S.
1,762 LF OF 8' DIA PERFORATED PIPE
VOL: 2.9640 AF (121,113 CF)

50 0 50 100 150
SCALE: 1"=50'

PROPOSED CONDITION EXHIBIT
BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220

PREPARED BY:
BONADIMAN
CIVILDESIGN

PREPARED FOR:

| BY | MARK | REVISION DESCRIPTION | DATE |
|---|---|---|---|

| | |
|---|---|
| PREPARED FOR: | BROWN STRAUSS STEEL |
| JOB NO: | 225047 |
| PREPARED BY: | JTS |
| CHECKED BY: | JTS |

NOTE: JOSEPH E. BONADIMAN & ASSOCIATES, INC. DOES NOT WARRANTY THE ACCURACY OF THE G.I.S. DATA PRESENTED IN THIS EXHIBIT. THIS EXHIBIT MAY CONTAIN INFORMATION COPYRIGHTED TO THE COUNTY OF SAN BERNARDINO,CA.

PROPOSED CONDITION EXHIBIT
BROWN STRAUSS STEEL
CITY OF BANNING, CA 92220

G

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 03-06-23

SHEET 1 OF 1

# ATTACHMENT 1

Existing
On-Site Conditions
10-Year & 100-Year
Rational Method

```
                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
        Rational Hydrology Study        Date: 02/28/23  File:BROWN.out
------------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
10-YEAR, 1-HOUR STORM
BY: JTS  DATE: 02-28-23
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

 English (in-lb) Units used in input data file

------------------------------------------------------------------------


Program License Serial Number 6320

------------------------------------------------------------------------
Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) =   10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [ Banning ] area used.
10 year storm 10 minute intensity =  2.300(In/Hr)
10 year storm 60 minute intensity =  0.890(In/Hr)
100 year storm 10 minute intensity =  3.410(In/Hr)
100 year storm 60 minute intensity =  1.320(In/Hr)

Storm event year =  10.0
Calculated rainfall intensity data:
1 hour intensity =  0.890(In/Hr)
Slope of intensity duration curve = 0.5300




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        0.000 to Point/Station        1.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   675.000(Ft.)
Top (of initial area) elevation =  2402.000(Ft.)
Bottom (of initial area) elevation =  2379.000(Ft.)
Difference in elevation =    23.000(Ft.)
Slope =    0.03407  s(percent)=       3.41
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.110 min.
Rainfall intensity =      1.917(In/Hr) for a    10.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.720
Decimal fraction soil group A = 0.655
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.345
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  73.56
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     13.675(CFS)
Total initial stream area =        9.910(Ac.)
Pervious area fraction = 1.000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```
Process from Point/Station        1.000 to Point/Station        2.000
**** IMPROVED CHANNEL TRAVEL TIME ****
____________________________________________________________________________
Upstream point elevation =  2379.000(Ft.)
Downstream point elevation =  2363.000(Ft.)
Channel length thru subarea  =   789.000(Ft.)
Channel base width      =    5.000(Ft.)
Slope or 'Z' of left channel bank =   0.500
Slope or 'Z' of right channel bank =   0.500
Estimated mean flow rate at midpoint of channel =     16.475(CFS)
Manning's 'N'    = 0.030
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     16.475(CFS)
Depth of flow =   0.659(Ft.), Average velocity =   4.692(Ft/s)
Channel flow top width =    5.659(Ft.)
Flow Velocity =    4.69(Ft/s)
Travel time  =    2.80 min.
Time of concentration =   16.91 min.

Sub-Channel No. 1 Critical depth =      0.680(Ft.)
  '     '       '     Critical flow top width =      5.680(Ft.)
  '     '       '     Critical flow velocity=    4.539(Ft/s)
  '     '       '     Critical flow area =      3.629(Sq.Ft)

 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.730
Decimal fraction soil group A = 0.493
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.507
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  76.63
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      1.741(In/Hr) for a    10.0 year storm
Subarea runoff =      5.539(CFS) for      4.360(Ac.)
Total runoff =     19.215(CFS)  Total area =      14.270(Ac.)
Depth of flow =   0.725(Ft.), Average velocity =   4.945(Ft/s)

Sub-Channel No. 1 Critical depth =      0.750(Ft.)
  '     '       '     Critical flow top width =      5.750(Ft.)
  '     '       '     Critical flow velocity=    4.766(Ft/s)
  '     '       '     Critical flow area =      4.031(Sq.Ft)

End of computations, total study area =           14.27 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  74.5
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 02/28/23 File:EX.out

---

225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
100-YEAR, 1-HOUR STORM
BY: JTS DATE: 02-28-23

---

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

---

Program License Serial Number 6320

---

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [ Banning ] area used.
10 year storm 10 minute intensity = 2.300(In/Hr)
10 year storm 60 minute intensity = 0.890(In/Hr)
100 year storm 10 minute intensity = 3.410(In/Hr)
100 year storm 60 minute intensity = 1.320(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.320(In/Hr)
Slope of intensity duration curve = 0.5300

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

---

Initial area flow distance = 675.000(Ft.)
Top (of initial area) elevation = 2402.000(Ft.)
Bottom (of initial area) elevation = 2379.000(Ft.)
Difference in elevation = 23.000(Ft.)
Slope = 0.03407 s(percent)= 3.41
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 14.110 min.
Rainfall intensity = 2.843(In/Hr) for a 100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.770
Decimal fraction soil group A = 0.655
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.345
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 73.56
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 21.697(CFS)
Total initial stream area = 9.910(Ac.)
Pervious area fraction = 1.000

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

```
Process from Point/Station        1.000 to Point/Station        2.000
**** IMPROVED CHANNEL TRAVEL TIME ****
____________________________________________________________________________
Upstream point elevation =  2379.000(Ft.)
Downstream point elevation =  2363.000(Ft.)
Channel length thru subarea  =   789.000(Ft.)
Channel base width      =    5.000(Ft.)
Slope or 'Z' of left channel bank =   0.500
Slope or 'Z' of right channel bank =   0.500
Estimated mean flow rate at midpoint of channel =     26.181(CFS)
Manning's 'N'    = 0.030
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     26.181(CFS)
Depth of flow =   0.878(Ft.), Average velocity =   5.484(Ft/s)
Channel flow top width =    5.878(Ft.)
Flow Velocity =    5.48(Ft/s)
Travel time  =    2.40 min.
Time of concentration =   16.51 min.

Sub-Channel No. 1 Critical depth =      0.922(Ft.)
  '     '       '     Critical flow top width =      5.922(Ft.)
  '     '       '     Critical flow velocity=    5.200(Ft/s)
  '     '       '     Critical flow area =      5.034(Sq.Ft)

 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.779
Decimal fraction soil group A = 0.493
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.507
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  76.63
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      2.616(In/Hr) for a   100.0 year storm
Subarea runoff =      8.884(CFS) for      4.360(Ac.)
Total runoff =     30.581(CFS)  Total area =      14.270(Ac.)
Depth of flow =   0.966(Ft.), Average velocity =   5.771(Ft/s)

Sub-Channel No. 1 Critical depth =      1.016(Ft.)
  '     '       '     Critical flow top width =      6.000(Ft.)
  '     '       '     Critical flow velocity=    5.467(Ft/s)
  '     '       '     Critical flow area =      5.594(Sq.Ft)

End of computations, total study area =           14.27 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  74.5
```

# ATTACHMENT 2

Existing
On-Site Conditions
2, 5, 10, & 100-Year
Unit Hydrograph Calculations

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD12.out

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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

----------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

----------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
2-YEAR STORM
BY: JTS  DATE: 02-28-23
----------------------------------------------------------------------
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1464.00(Ft.)
Length along longest watercourse measured to centroid = 865.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.164 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.087 Hr.
Lag time = 5.21 Min.
25% of lag time = 1.30 Min.
40% of lag time = 2.09 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.56 | 7.99 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.28 | 18.27 |

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.560(In)
Area Averaged 100-Year Rainfall = 1.280(In)

Point rain (area averaged) = 0.560(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.560(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
          14.270           74.50         0.000
         Total Area Entered =     14.27(Ac.)


        RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
        AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
        74.5  56.4      0.507     0.000        0.507       1.000      0.507
                                                          Sum (F) =   0.507
        Area averaged mean soil loss (F) (In/Hr) =  0.507
        Minimum soil loss rate ((In/Hr)) =  0.253
        (for 24 hour storm duration)
        Soil low loss rate (decimal) =   0.900
        ------------------------------------------------------------------------
        Slope of intensity-duration curve for a 1 hour storm =0.5300
        ------------------------------------------------------------------------

                       U n i t  H y d r o g r a p h
                              VALLEY S-Curve
        ------------------------------------------------------------------
                       Unit Hydrograph Data
        ------------------------------------------------------------------
        Unit time period   Time % of lag   Distribution   Unit Hydrograph
            (hrs)                           Graph %           (CFS)
        ------------------------------------------------------------------
            1   0.083         95.911         17.950             2.581
            2   0.167        191.821         48.005             6.904
            3   0.250        287.732         16.296             2.344
            4   0.333        383.642          7.287             1.048
            5   0.417        479.553          4.148             0.597
            6   0.500        575.463          2.689             0.387
            7   0.583        671.374          1.732             0.249
            8   0.667        767.284          1.088             0.156
            9   0.750        863.195          0.807             0.116
                                      Sum = 100.000   Sum=      14.381
    ------------------------------------------------------------------------


     The following loss rate calculations reflect use of the minimum calculated loss
     rate subtracted from the Storm Rain to produce the maximum Effective Rain value

      Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
           (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
       1   0.08     3.40      0.228       (  0.507)       0.206        0.023
       2   0.17     4.70      0.316       (  0.507)       0.284        0.032
       3   0.25     4.70      0.316       (  0.507)       0.284        0.032
       4   0.33     5.10      0.343       (  0.507)       0.308        0.034
       5   0.42     5.80      0.390       (  0.507)       0.351        0.039
       6   0.50     5.90      0.396       (  0.507)       0.357        0.040
       7   0.58     7.10      0.477       (  0.507)       0.429        0.048
       8   0.67     8.70      0.585          0.507    (  0.526)        0.078
       9   0.75    13.20      0.887          0.507    (  0.798)        0.380
      10   0.83    29.70      1.996          0.507    (  1.796)        1.489
      11   0.92     7.70      0.517       (  0.507)       0.466        0.052
      12   1.00     4.00      0.269       (  0.507)       0.242        0.027
                    (Loss Rate Not Used)
         Sum =     100.0                                   Sum =     2.3
            Flood volume = Effective rainfall      0.19(In)
             times area      14.3(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
            Total soil loss =      0.37(In)
            Total soil loss =     0.441(Ac.Ft)
            Total rainfall =      0.56(In)
            Flood volume =        9808.0 Cubic Feet
            Total soil loss =       19196.3 Cubic Feet
            ------------------------------------------------------------------
             Peak flow rate of this hydrograph =     11.453(CFS)
            ------------------------------------------------------------------
            ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                              1 - H O U R    S T O R M
                          R u n o f f     H y d r o g r a p h
```

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0004 | 0.06 | Q | | | | |
| 0+10 | 0.0021 | 0.24 | Q | | | | |
| 0+15 | 0.0045 | 0.35 | Q | | | | |
| 0+20 | 0.0073 | 0.40 | QV | | | | |
| 0+25 | 0.0104 | 0.46 | QV | | | | |
| 0+30 | 0.0140 | 0.51 | QV | | | | |
| 0+35 | 0.0178 | 0.56 | Q V | | | | |
| 0+40 | 0.0227 | 0.71 | Q V | | | | |
| 0+45 | 0.0346 | 1.73 | Q V | | | | |
| 0+50 | 0.0811 | 6.76 | | QV | | | |
| 0+55 | 0.1600 | 11.45 | | | Q V | | |
| 1+ 0 | 0.1903 | 4.40 | Q | | | V | |
| 1+ 5 | 0.2051 | 2.15 | Q | | | V | |
| 1+10 | 0.2133 | 1.18 | Q | | | V | |
| 1+15 | 0.2184 | 0.75 | Q | | | V | |
| 1+20 | 0.2217 | 0.48 | Q | | | V | |
| 1+25 | 0.2238 | 0.30 | Q | | | V | |
| 1+30 | 0.2251 | 0.19 | Q | | | V | |
| 1+35 | 0.2251 | 0.01 | Q | | | V | |
| 1+40 | 0.2252 | 0.00 | Q | | | V | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD32.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
2-YEAR STORM
BY: JTS DATE: 02-28-23
---
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1464.00(Ft.)
Length along longest watercourse measured to centroid = 865.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.164 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.087 Hr.
Lag time = 5.21 Min.
25% of lag time = 1.30 Min.
40% of lag time = 2.09 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.96 | 13.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.23 | 31.82 |

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.960(In)
Area Averaged 100-Year Rainfall = 2.230(In)

Point rain (area averaged) = 0.960(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.960(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
   14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  56.4      0.507     0.000        0.507       1.000      0.507
                                                 Sum (F) =   0.507
Area averaged mean soil loss (F) (In/Hr) =  0.507
Minimum soil loss rate ((In/Hr)) =  0.253
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
--------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
--------------------------------------------------------------------------
               Unit Hydrograph Data
--------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
--------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
--------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     1.30      0.150       (  0.507)       0.135        0.015
   2   0.17     1.30      0.150       (  0.507)       0.135        0.015
   3   0.25     1.10      0.127       (  0.507)       0.114        0.013
   4   0.33     1.50      0.173       (  0.507)       0.156        0.017
   5   0.42     1.50      0.173       (  0.507)       0.156        0.017
   6   0.50     1.80      0.207       (  0.507)       0.187        0.021
   7   0.58     1.50      0.173       (  0.507)       0.156        0.017
   8   0.67     1.80      0.207       (  0.507)       0.187        0.021
   9   0.75     1.80      0.207       (  0.507)       0.187        0.021
  10   0.83     1.50      0.173       (  0.507)       0.156        0.017
  11   0.92     1.60      0.184       (  0.507)       0.166        0.018
  12   1.00     1.80      0.207       (  0.507)       0.187        0.021
  13   1.08     2.20      0.253       (  0.507)       0.228        0.025
  14   1.17     2.20      0.253       (  0.507)       0.228        0.025
  15   1.25     2.20      0.253       (  0.507)       0.228        0.025
  16   1.33     2.00      0.230       (  0.507)       0.207        0.023
  17   1.42     2.60      0.300       (  0.507)       0.270        0.030
  18   1.50     2.70      0.311       (  0.507)       0.280        0.031
  19   1.58     2.40      0.276       (  0.507)       0.249        0.028
  20   1.67     2.70      0.311       (  0.507)       0.280        0.031
  21   1.75     3.30      0.380       (  0.507)       0.342        0.038
  22   1.83     3.10      0.357       (  0.507)       0.321        0.036
  23   1.92     2.90      0.334       (  0.507)       0.301        0.033
  24   2.00     3.00      0.346       (  0.507)       0.311        0.035
  25   2.08     3.10      0.357       (  0.507)       0.321        0.036
  26   2.17     4.20      0.484       (  0.507)       0.435        0.048
  27   2.25     5.00      0.576          0.507    (  0.518)        0.069
  28   2.33     3.50      0.403       (  0.507)       0.363        0.040
  29   2.42     6.80      0.783          0.507    (  0.705)        0.277
```

```
30   2.50     7.30      0.841          0.507    (  0.757)        0.334
31   2.58     8.20      0.945          0.507    (  0.850)        0.438
32   2.67     5.90      0.680          0.507    (  0.612)        0.173
33   2.75     2.00      0.230       (  0.507)       0.207        0.023
34   2.83     1.80      0.207       (  0.507)       0.187        0.021
35   2.92     1.80      0.207       (  0.507)       0.187        0.021
36   3.00     0.60      0.069       (  0.507)       0.062        0.007
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =     2.1
      Flood volume = Effective rainfall      0.17(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
      Total soil loss =      0.79(In)
      Total soil loss =     0.937(Ac.Ft)
      Total rainfall =      0.96(In)
      Flood volume =        8893.6 Cubic Feet
      Total soil loss =       40831.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      4.617(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0003      0.04  Q         |         |         |         |
  0+10       0.0012      0.14  Q         |         |         |         |
  0+15       0.0024      0.17  Q         |         |         |         |
  0+20       0.0037      0.18  Q         |         |         |         |
  0+25       0.0052      0.22  QV        |         |         |         |
  0+30       0.0069      0.24  QV        |         |         |         |
  0+35       0.0087      0.26  |Q        |         |         |         |
  0+40       0.0105      0.26  |QV       |         |         |         |
  0+45       0.0124      0.28  |QV       |         |         |         |
  0+50       0.0144      0.28  |QV       |         |         |         |
  0+55       0.0162      0.26  |Q V      |         |         |         |
  1+ 0       0.0180      0.27  |Q V      |         |         |         |
  1+ 5       0.0201      0.30  |Q V      |         |         |         |
  1+10       0.0224      0.34  |Q  V     |         |         |         |
  1+15       0.0248      0.35  |Q  V     |         |         |         |
  1+20       0.0273      0.35  |Q   V    |         |         |         |
  1+25       0.0297      0.36  |Q   V    |         |         |         |
  1+30       0.0325      0.40  |Q    V   |         |         |         |
  1+35       0.0353      0.42  |Q    V   |         |         |         |
  1+40       0.0382      0.41  |Q     V  |         |         |         |
  1+45       0.0413      0.45  |Q      V |         |         |         |
  1+50       0.0447      0.50  |Q      V |         |         |         |
  1+55       0.0482      0.50  |Q       V|         |         |         |
  2+ 0       0.0515      0.49  |Q        V         |         |         |
  2+ 5       0.0549      0.50  |Q        V         |         |         |
  2+10       0.0586      0.54  | Q       |V        |         |         |
  2+15       0.0634      0.68  | Q       | V       |         |         |
  2+20       0.0688      0.79  |  Q      |  V      |         |         |
  2+25       0.0774      1.26  |    Q    |    V    |         |         |
  2+30       0.0981      3.00  |         | Q      V|         |         |
  2+35       0.1271      4.21  |         |     Q   |   V     |         |
  2+40       0.1589      4.62  |         |       Q |         |V        |
  2+45       0.1785      2.84  |         |Q        |         |   V     |
  2+50       0.1882      1.41  |    Q    |         |         |     V   |
  2+55       0.1944      0.91  |  Q      |         |         |       V |
  3+ 0       0.1988      0.64  | Q       |         |         |       V |
  3+ 5       0.2015      0.39  |Q        |         |         |        V|
  3+10       0.2029      0.21  Q         |         |         |        V|
  3+15       0.2037      0.11  Q         |         |         |        V|
  3+20       0.2040      0.04  Q         |         |         |        V|
  3+25       0.2041      0.01  Q         |         |         |        V|
```

```
    3+30       0.2041      0.01  Q        |        |        |       V|
    3+35       0.2042      0.00  Q        |        |        |       V|
    3+40       0.2042      0.00  Q        |        |        |       V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
Study date 02/28/23 File: EXHYD62.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
2-YEAR STORM
BY: JTS DATE: 02-28-23
---
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1464.00(Ft.)
Length along longest watercourse measured to centroid = 865.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.164 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.087 Hr.
Lag time = 5.21 Min.
25% of lag time = 1.30 Min.
40% of lag time = 2.09 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.42 | 20.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 3.15 | 44.95 |

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.420(In)
Area Averaged 100-Year Rainfall = 3.150(In)

Point rain (area averaged) = 1.420(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.420(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
    14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  56.4      0.507     0.000        0.507       1.000      0.507
                                                 Sum (F) =   0.507
Area averaged mean soil loss (F) (In/Hr) =  0.507
Minimum soil loss rate ((In/Hr)) =  0.253
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
--------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
--------------------------------------------------------------------------
               Unit Hydrograph Data
--------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
--------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
--------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     0.50      0.085       (  0.507)       0.077        0.009
   2   0.17     0.60      0.102       (  0.507)       0.092        0.010
   3   0.25     0.60      0.102       (  0.507)       0.092        0.010
   4   0.33     0.60      0.102       (  0.507)       0.092        0.010
   5   0.42     0.60      0.102       (  0.507)       0.092        0.010
   6   0.50     0.70      0.119       (  0.507)       0.107        0.012
   7   0.58     0.70      0.119       (  0.507)       0.107        0.012
   8   0.67     0.70      0.119       (  0.507)       0.107        0.012
   9   0.75     0.70      0.119       (  0.507)       0.107        0.012
  10   0.83     0.70      0.119       (  0.507)       0.107        0.012
  11   0.92     0.70      0.119       (  0.507)       0.107        0.012
  12   1.00     0.80      0.136       (  0.507)       0.123        0.014
  13   1.08     0.80      0.136       (  0.507)       0.123        0.014
  14   1.17     0.80      0.136       (  0.507)       0.123        0.014
  15   1.25     0.80      0.136       (  0.507)       0.123        0.014
  16   1.33     0.80      0.136       (  0.507)       0.123        0.014
  17   1.42     0.80      0.136       (  0.507)       0.123        0.014
  18   1.50     0.80      0.136       (  0.507)       0.123        0.014
  19   1.58     0.80      0.136       (  0.507)       0.123        0.014
  20   1.67     0.80      0.136       (  0.507)       0.123        0.014
  21   1.75     0.80      0.136       (  0.507)       0.123        0.014
  22   1.83     0.80      0.136       (  0.507)       0.123        0.014
  23   1.92     0.80      0.136       (  0.507)       0.123        0.014
  24   2.00     0.90      0.153       (  0.507)       0.138        0.015
  25   2.08     0.80      0.136       (  0.507)       0.123        0.014
  26   2.17     0.90      0.153       (  0.507)       0.138        0.015
  27   2.25     0.90      0.153       (  0.507)       0.138        0.015
  28   2.33     0.90      0.153       (  0.507)       0.138        0.015
  29   2.42     0.90      0.153       (  0.507)       0.138        0.015
```

```
30   2.50     0.90      0.153       (  0.507)       0.138        0.015
31   2.58     0.90      0.153       (  0.507)       0.138        0.015
32   2.67     0.90      0.153       (  0.507)       0.138        0.015
33   2.75     1.00      0.170       (  0.507)       0.153        0.017
34   2.83     1.00      0.170       (  0.507)       0.153        0.017
35   2.92     1.00      0.170       (  0.507)       0.153        0.017
36   3.00     1.00      0.170       (  0.507)       0.153        0.017
37   3.08     1.00      0.170       (  0.507)       0.153        0.017
38   3.17     1.10      0.187       (  0.507)       0.169        0.019
39   3.25     1.10      0.187       (  0.507)       0.169        0.019
40   3.33     1.10      0.187       (  0.507)       0.169        0.019
41   3.42     1.20      0.204       (  0.507)       0.184        0.020
42   3.50     1.30      0.222       (  0.507)       0.199        0.022
43   3.58     1.40      0.239       (  0.507)       0.215        0.024
44   3.67     1.40      0.239       (  0.507)       0.215        0.024
45   3.75     1.50      0.256       (  0.507)       0.230        0.026
46   3.83     1.50      0.256       (  0.507)       0.230        0.026
47   3.92     1.60      0.273       (  0.507)       0.245        0.027
48   4.00     1.60      0.273       (  0.507)       0.245        0.027
49   4.08     1.70      0.290       (  0.507)       0.261        0.029
50   4.17     1.80      0.307       (  0.507)       0.276        0.031
51   4.25     1.90      0.324       (  0.507)       0.291        0.032
52   4.33     2.00      0.341       (  0.507)       0.307        0.034
53   4.42     2.10      0.358       (  0.507)       0.322        0.036
54   4.50     2.10      0.358       (  0.507)       0.322        0.036
55   4.58     2.20      0.375       (  0.507)       0.337        0.037
56   4.67     2.30      0.392       (  0.507)       0.353        0.039
57   4.75     2.40      0.409       (  0.507)       0.368        0.041
58   4.83     2.40      0.409       (  0.507)       0.368        0.041
59   4.92     2.50      0.426       (  0.507)       0.383        0.043
60   5.00     2.60      0.443       (  0.507)       0.399        0.044
61   5.08     3.10      0.528       (  0.507)       0.475        0.053
62   5.17     3.60      0.613          0.507    (  0.552)       0.107
63   5.25     3.90      0.665          0.507    (  0.598)       0.158
64   5.33     4.20      0.716          0.507    (  0.644)       0.209
65   5.42     4.70      0.801          0.507    (  0.721)       0.294
66   5.50     5.60      0.954          0.507    (  0.859)       0.447
67   5.58     1.90      0.324       (  0.507)       0.291        0.032
68   5.67     0.90      0.153       (  0.507)       0.138        0.015
69   5.75     0.60      0.102       (  0.507)       0.092        0.010
70   5.83     0.50      0.085       (  0.507)       0.077        0.009
71   5.92     0.30      0.051       (  0.507)       0.046        0.005
72   6.00     0.20      0.034       (  0.507)       0.031        0.003
              (Loss Rate Not Used)
   Sum =     100.0                                  Sum =     2.5
      Flood volume = Effective rainfall      0.21(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
      Total soil loss =      1.21(In)
      Total soil loss =     1.436(Ac.Ft)
      Total rainfall =      1.42(In)
      Flood volume =       10981.9 Cubic Feet
      Total soil loss =       62570.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      4.244(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         6 - H O U R    S T O R M
                    R u n o f f     H y d r o g r a p h
      ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.02  Q         |         |         |         |
  0+10       0.0007      0.09  Q         |         |         |         |
  0+15       0.0015      0.12  Q         |         |         |         |
  0+20       0.0024      0.13  Q         |         |         |         |
  0+25       0.0034      0.14  Q         |         |         |         |
```

```
0+30       0.0044      0.15  Q         |         |         |         |
0+35       0.0055      0.16  Q         |         |         |         |
0+40       0.0066      0.17  QV        |         |         |         |
0+45       0.0078      0.17  QV        |         |         |         |
0+50       0.0090      0.17  QV        |         |         |         |
0+55       0.0101      0.17  QV        |         |         |         |
1+ 0       0.0113      0.18  QV        |         |         |         |
1+ 5       0.0126      0.19  Q V       |         |         |         |
1+10       0.0140      0.19  Q V       |         |         |         |
1+15       0.0153      0.19  Q V       |         |         |         |
1+20       0.0166      0.19  Q V       |         |         |         |
1+25       0.0180      0.20  Q V       |         |         |         |
1+30       0.0193      0.20  Q  V      |         |         |         |
1+35       0.0207      0.20  Q  V      |         |         |         |
1+40       0.0220      0.20  Q  V      |         |         |         |
1+45       0.0234      0.20  Q  V      |         |         |         |
1+50       0.0247      0.20  Q  V      |         |         |         |
1+55       0.0261      0.20  Q   V     |         |         |         |
2+ 0       0.0275      0.20  Q   V     |         |         |         |
2+ 5       0.0289      0.21  Q   V     |         |         |         |
2+10       0.0303      0.20  Q   V     |         |         |         |
2+15       0.0318      0.21  Q    V    |         |         |         |
2+20       0.0333      0.22  Q    V    |         |         |         |
2+25       0.0348      0.22  Q    V    |         |         |         |
2+30       0.0363      0.22  Q    V    |         |         |         |
2+35       0.0378      0.22  Q    V    |         |         |         |
2+40       0.0393      0.22  Q     V   |         |         |         |
2+45       0.0409      0.22  Q     V   |         |         |         |
2+50       0.0425      0.24  Q     V   |         |         |         |
2+55       0.0442      0.24  Q      V  |         |         |         |
3+ 0       0.0458      0.24  Q      V  |         |         |         |
3+ 5       0.0475      0.24  Q      V  |         |         |         |
3+10       0.0492      0.25  Q      V  |         |         |         |
3+15       0.0510      0.26  |Q      V |         |         |         |
3+20       0.0528      0.27  |Q      V |         |         |         |
3+25       0.0547      0.27  |Q      V |         |         |         |
3+30       0.0567      0.29  |Q      V |         |         |         |
3+35       0.0588      0.31  |Q       V|         |         |         |
3+40       0.0611      0.33  |Q       V|         |         |         |
3+45       0.0634      0.34  |Q        V         |         |         |
3+50       0.0659      0.35  |Q        V         |         |         |
3+55       0.0684      0.36  |Q        V         |         |         |
4+ 0       0.0710      0.38  |Q        |V        |         |         |
4+ 5       0.0737      0.39  |Q        |V        |         |         |
4+10       0.0765      0.41  |Q        | V       |         |         |
4+15       0.0795      0.43  |Q        | V       |         |         |
4+20       0.0826      0.45  |Q        |  V      |         |         |
4+25       0.0859      0.48  |Q        |  V      |         |         |
4+30       0.0893      0.50  |Q        |   V     |         |         |
4+35       0.0928      0.51  | Q       |   V     |         |         |
4+40       0.0965      0.53  | Q       |    V    |         |         |
4+45       0.1003      0.55  | Q       |    V    |         |         |
4+50       0.1042      0.57  | Q       |     V   |         |         |
4+55       0.1082      0.58  | Q       |      V  |         |         |
5+ 0       0.1124      0.60  | Q       |      V  |         |         |
5+ 5       0.1168      0.64  | Q       |       V |         |         |
5+10       0.1227      0.85  |  Q      |        V|         |         |
5+15       0.1321      1.38  |    Q    |         V         |         |
5+20       0.1459      2.00  |      Q  |          |  V     |         |
5+25       0.1649      2.76  |         |Q         |     V  |         |
5+30       0.1921      3.95  |         |    Q     |        V         |
5+35       0.2213      4.24  |         |     Q    |         |    V   |
5+40       0.2340      1.85  |      Q  |          |         |     V  |
5+45       0.2409      1.00  |  Q      |          |         |      V |
5+50       0.2452      0.63  | Q       |          |         |      V |
5+55       0.2482      0.43  |Q        |          |         |       V|
6+ 0       0.2501      0.28  |Q        |          |         |       V|
6+ 5       0.2513      0.17  Q         |          |         |       V|
6+10       0.2519      0.08  Q         |          |         |       V|
```

```
    6+15       0.2520      0.02  Q        |         |         |        V|
    6+20       0.2520      0.01  Q        |         |         |        V|
    6+25       0.2521      0.01  Q        |         |         |        V|
    6+30       0.2521      0.00  Q        |         |         |        V|
    6+35       0.2521      0.00  Q        |         |         |        V|
    6+40       0.2521      0.00  Q        |         |         |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD242.out

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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

----------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

----------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
2-YEAR STORM
BY: JTS  DATE: 02-28-23
----------------------------------------------------------------------
Drainage Area =  14.27(Ac.)  =  0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =  14.27(Ac.)  =  0.022 Sq. Mi.
Length along longest watercourse =  1464.00(Ft.)
Length along longest watercourse measured to centroid =  865.00(Ft.)
Length along longest watercourse =  0.277 Mi.
Length along longest watercourse measured to centroid =  0.164 Mi.
Difference in elevation =  39.00(Ft.)
Slope along watercourse =  140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =  0.087 Hr.
Lag time =  5.21 Min.
25% of lag time =  1.30 Min.
40% of lag time =  2.09 Min.
Unit time =  5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =  0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.65 | 37.82 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 6.95 | 99.18 |

STORM EVENT (YEAR) =  2.00
Area Averaged 2-Year Rainfall =  2.650(In)
Area Averaged 100-Year Rainfall =  6.950(In)

Point rain (area averaged) =  2.650(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =  2.650(In)

Sub-Area Data:
Area(Ac.)  Runoff Index  Impervious %

```
    14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  56.4      0.507     0.000        0.507       1.000      0.507
                                                 Sum (F) =   0.507
Area averaged mean soil loss (F) (In/Hr) =  0.507
Minimum soil loss rate ((In/Hr)) =  0.253
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)        Max    |   Low        (In/Hr)
   1   0.08     0.07      0.021       (  0.898)       0.019        0.002
   2   0.17     0.07      0.021       (  0.895)       0.019        0.002
   3   0.25     0.07      0.021       (  0.891)       0.019        0.002
   4   0.33     0.10      0.032       (  0.888)       0.029        0.003
   5   0.42     0.10      0.032       (  0.884)       0.029        0.003
   6   0.50     0.10      0.032       (  0.881)       0.029        0.003
   7   0.58     0.10      0.032       (  0.878)       0.029        0.003
   8   0.67     0.10      0.032       (  0.874)       0.029        0.003
   9   0.75     0.10      0.032       (  0.871)       0.029        0.003
  10   0.83     0.13      0.042       (  0.867)       0.038        0.004
  11   0.92     0.13      0.042       (  0.864)       0.038        0.004
  12   1.00     0.13      0.042       (  0.860)       0.038        0.004
  13   1.08     0.10      0.032       (  0.857)       0.029        0.003
  14   1.17     0.10      0.032       (  0.854)       0.029        0.003
  15   1.25     0.10      0.032       (  0.850)       0.029        0.003
  16   1.33     0.10      0.032       (  0.847)       0.029        0.003
  17   1.42     0.10      0.032       (  0.844)       0.029        0.003
  18   1.50     0.10      0.032       (  0.840)       0.029        0.003
  19   1.58     0.10      0.032       (  0.837)       0.029        0.003
  20   1.67     0.10      0.032       (  0.833)       0.029        0.003
  21   1.75     0.10      0.032       (  0.830)       0.029        0.003
  22   1.83     0.13      0.042       (  0.827)       0.038        0.004
  23   1.92     0.13      0.042       (  0.823)       0.038        0.004
  24   2.00     0.13      0.042       (  0.820)       0.038        0.004
  25   2.08     0.13      0.042       (  0.817)       0.038        0.004
  26   2.17     0.13      0.042       (  0.813)       0.038        0.004
  27   2.25     0.13      0.042       (  0.810)       0.038        0.004
  28   2.33     0.13      0.042       (  0.807)       0.038        0.004
  29   2.42     0.13      0.042       (  0.804)       0.038        0.004
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 30 | 2.50 | 0.13 | 0.042 | ( 0.800) | 0.038 | 0.004 |
| 31 | 2.58 | 0.17 | 0.053 | ( 0.797) | 0.048 | 0.005 |
| 32 | 2.67 | 0.17 | 0.053 | ( 0.794) | 0.048 | 0.005 |
| 33 | 2.75 | 0.17 | 0.053 | ( 0.790) | 0.048 | 0.005 |
| 34 | 2.83 | 0.17 | 0.053 | ( 0.787) | 0.048 | 0.005 |
| 35 | 2.92 | 0.17 | 0.053 | ( 0.784) | 0.048 | 0.005 |
| 36 | 3.00 | 0.17 | 0.053 | ( 0.781) | 0.048 | 0.005 |
| 37 | 3.08 | 0.17 | 0.053 | ( 0.777) | 0.048 | 0.005 |
| 38 | 3.17 | 0.17 | 0.053 | ( 0.774) | 0.048 | 0.005 |
| 39 | 3.25 | 0.17 | 0.053 | ( 0.771) | 0.048 | 0.005 |
| 40 | 3.33 | 0.17 | 0.053 | ( 0.768) | 0.048 | 0.005 |
| 41 | 3.42 | 0.17 | 0.053 | ( 0.765) | 0.048 | 0.005 |
| 42 | 3.50 | 0.17 | 0.053 | ( 0.761) | 0.048 | 0.005 |
| 43 | 3.58 | 0.17 | 0.053 | ( 0.758) | 0.048 | 0.005 |
| 44 | 3.67 | 0.17 | 0.053 | ( 0.755) | 0.048 | 0.005 |
| 45 | 3.75 | 0.17 | 0.053 | ( 0.752) | 0.048 | 0.005 |
| 46 | 3.83 | 0.20 | 0.064 | ( 0.749) | 0.057 | 0.006 |
| 47 | 3.92 | 0.20 | 0.064 | ( 0.746) | 0.057 | 0.006 |
| 48 | 4.00 | 0.20 | 0.064 | ( 0.742) | 0.057 | 0.006 |
| 49 | 4.08 | 0.20 | 0.064 | ( 0.739) | 0.057 | 0.006 |
| 50 | 4.17 | 0.20 | 0.064 | ( 0.736) | 0.057 | 0.006 |
| 51 | 4.25 | 0.20 | 0.064 | ( 0.733) | 0.057 | 0.006 |
| 52 | 4.33 | 0.23 | 0.074 | ( 0.730) | 0.067 | 0.007 |
| 53 | 4.42 | 0.23 | 0.074 | ( 0.727) | 0.067 | 0.007 |
| 54 | 4.50 | 0.23 | 0.074 | ( 0.724) | 0.067 | 0.007 |
| 55 | 4.58 | 0.23 | 0.074 | ( 0.721) | 0.067 | 0.007 |
| 56 | 4.67 | 0.23 | 0.074 | ( 0.717) | 0.067 | 0.007 |
| 57 | 4.75 | 0.23 | 0.074 | ( 0.714) | 0.067 | 0.007 |
| 58 | 4.83 | 0.27 | 0.085 | ( 0.711) | 0.076 | 0.008 |
| 59 | 4.92 | 0.27 | 0.085 | ( 0.708) | 0.076 | 0.008 |
| 60 | 5.00 | 0.27 | 0.085 | ( 0.705) | 0.076 | 0.008 |
| 61 | 5.08 | 0.20 | 0.064 | ( 0.702) | 0.057 | 0.006 |
| 62 | 5.17 | 0.20 | 0.064 | ( 0.699) | 0.057 | 0.006 |
| 63 | 5.25 | 0.20 | 0.064 | ( 0.696) | 0.057 | 0.006 |
| 64 | 5.33 | 0.23 | 0.074 | ( 0.693) | 0.067 | 0.007 |
| 65 | 5.42 | 0.23 | 0.074 | ( 0.690) | 0.067 | 0.007 |
| 66 | 5.50 | 0.23 | 0.074 | ( 0.687) | 0.067 | 0.007 |
| 67 | 5.58 | 0.27 | 0.085 | ( 0.684) | 0.076 | 0.008 |
| 68 | 5.67 | 0.27 | 0.085 | ( 0.681) | 0.076 | 0.008 |
| 69 | 5.75 | 0.27 | 0.085 | ( 0.678) | 0.076 | 0.008 |
| 70 | 5.83 | 0.27 | 0.085 | ( 0.675) | 0.076 | 0.008 |
| 71 | 5.92 | 0.27 | 0.085 | ( 0.672) | 0.076 | 0.008 |
| 72 | 6.00 | 0.27 | 0.085 | ( 0.669) | 0.076 | 0.008 |
| 73 | 6.08 | 0.30 | 0.095 | ( 0.666) | 0.086 | 0.010 |
| 74 | 6.17 | 0.30 | 0.095 | ( 0.663) | 0.086 | 0.010 |
| 75 | 6.25 | 0.30 | 0.095 | ( 0.660) | 0.086 | 0.010 |
| 76 | 6.33 | 0.30 | 0.095 | ( 0.657) | 0.086 | 0.010 |
| 77 | 6.42 | 0.30 | 0.095 | ( 0.654) | 0.086 | 0.010 |
| 78 | 6.50 | 0.30 | 0.095 | ( 0.651) | 0.086 | 0.010 |
| 79 | 6.58 | 0.33 | 0.106 | ( 0.648) | 0.095 | 0.011 |
| 80 | 6.67 | 0.33 | 0.106 | ( 0.645) | 0.095 | 0.011 |
| 81 | 6.75 | 0.33 | 0.106 | ( 0.642) | 0.095 | 0.011 |
| 82 | 6.83 | 0.33 | 0.106 | ( 0.639) | 0.095 | 0.011 |
| 83 | 6.92 | 0.33 | 0.106 | ( 0.637) | 0.095 | 0.011 |
| 84 | 7.00 | 0.33 | 0.106 | ( 0.634) | 0.095 | 0.011 |
| 85 | 7.08 | 0.33 | 0.106 | ( 0.631) | 0.095 | 0.011 |
| 86 | 7.17 | 0.33 | 0.106 | ( 0.628) | 0.095 | 0.011 |
| 87 | 7.25 | 0.33 | 0.106 | ( 0.625) | 0.095 | 0.011 |
| 88 | 7.33 | 0.37 | 0.117 | ( 0.622) | 0.105 | 0.012 |
| 89 | 7.42 | 0.37 | 0.117 | ( 0.619) | 0.105 | 0.012 |
| 90 | 7.50 | 0.37 | 0.117 | ( 0.617) | 0.105 | 0.012 |
| 91 | 7.58 | 0.40 | 0.127 | ( 0.614) | 0.114 | 0.013 |
| 92 | 7.67 | 0.40 | 0.127 | ( 0.611) | 0.114 | 0.013 |
| 93 | 7.75 | 0.40 | 0.127 | ( 0.608) | 0.114 | 0.013 |
| 94 | 7.83 | 0.43 | 0.138 | ( 0.605) | 0.124 | 0.014 |
| 95 | 7.92 | 0.43 | 0.138 | ( 0.602) | 0.124 | 0.014 |
| 96 | 8.00 | 0.43 | 0.138 | ( 0.600) | 0.124 | 0.014 |
| 97 | 8.08 | 0.50 | 0.159 | ( 0.597) | 0.143 | 0.016 |
| 98 | 8.17 | 0.50 | 0.159 | ( 0.594) | 0.143 | 0.016 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 99 | 8.25 | 0.50 | 0.159 | ( 0.591) | 0.143 | 0.016 |
| 100 | 8.33 | 0.50 | 0.159 | ( 0.589) | 0.143 | 0.016 |
| 101 | 8.42 | 0.50 | 0.159 | ( 0.586) | 0.143 | 0.016 |
| 102 | 8.50 | 0.50 | 0.159 | ( 0.583) | 0.143 | 0.016 |
| 103 | 8.58 | 0.53 | 0.170 | ( 0.580) | 0.153 | 0.017 |
| 104 | 8.67 | 0.53 | 0.170 | ( 0.578) | 0.153 | 0.017 |
| 105 | 8.75 | 0.53 | 0.170 | ( 0.575) | 0.153 | 0.017 |
| 106 | 8.83 | 0.57 | 0.180 | ( 0.572) | 0.162 | 0.018 |
| 107 | 8.92 | 0.57 | 0.180 | ( 0.569) | 0.162 | 0.018 |
| 108 | 9.00 | 0.57 | 0.180 | ( 0.567) | 0.162 | 0.018 |
| 109 | 9.08 | 0.63 | 0.201 | ( 0.564) | 0.181 | 0.020 |
| 110 | 9.17 | 0.63 | 0.201 | ( 0.561) | 0.181 | 0.020 |
| 111 | 9.25 | 0.63 | 0.201 | ( 0.559) | 0.181 | 0.020 |
| 112 | 9.33 | 0.67 | 0.212 | ( 0.556) | 0.191 | 0.021 |
| 113 | 9.42 | 0.67 | 0.212 | ( 0.553) | 0.191 | 0.021 |
| 114 | 9.50 | 0.67 | 0.212 | ( 0.551) | 0.191 | 0.021 |
| 115 | 9.58 | 0.70 | 0.223 | ( 0.548) | 0.200 | 0.022 |
| 116 | 9.67 | 0.70 | 0.223 | ( 0.546) | 0.200 | 0.022 |
| 117 | 9.75 | 0.70 | 0.223 | ( 0.543) | 0.200 | 0.022 |
| 118 | 9.83 | 0.73 | 0.233 | ( 0.540) | 0.210 | 0.023 |
| 119 | 9.92 | 0.73 | 0.233 | ( 0.538) | 0.210 | 0.023 |
| 120 | 10.00 | 0.73 | 0.233 | ( 0.535) | 0.210 | 0.023 |
| 121 | 10.08 | 0.50 | 0.159 | ( 0.533) | 0.143 | 0.016 |
| 122 | 10.17 | 0.50 | 0.159 | ( 0.530) | 0.143 | 0.016 |
| 123 | 10.25 | 0.50 | 0.159 | ( 0.527) | 0.143 | 0.016 |
| 124 | 10.33 | 0.50 | 0.159 | ( 0.525) | 0.143 | 0.016 |
| 125 | 10.42 | 0.50 | 0.159 | ( 0.522) | 0.143 | 0.016 |
| 126 | 10.50 | 0.50 | 0.159 | ( 0.520) | 0.143 | 0.016 |
| 127 | 10.58 | 0.67 | 0.212 | ( 0.517) | 0.191 | 0.021 |
| 128 | 10.67 | 0.67 | 0.212 | ( 0.515) | 0.191 | 0.021 |
| 129 | 10.75 | 0.67 | 0.212 | ( 0.512) | 0.191 | 0.021 |
| 130 | 10.83 | 0.67 | 0.212 | ( 0.510) | 0.191 | 0.021 |
| 131 | 10.92 | 0.67 | 0.212 | ( 0.507) | 0.191 | 0.021 |
| 132 | 11.00 | 0.67 | 0.212 | ( 0.505) | 0.191 | 0.021 |
| 133 | 11.08 | 0.63 | 0.201 | ( 0.502) | 0.181 | 0.020 |
| 134 | 11.17 | 0.63 | 0.201 | ( 0.500) | 0.181 | 0.020 |
| 135 | 11.25 | 0.63 | 0.201 | ( 0.497) | 0.181 | 0.020 |
| 136 | 11.33 | 0.63 | 0.201 | ( 0.495) | 0.181 | 0.020 |
| 137 | 11.42 | 0.63 | 0.201 | ( 0.492) | 0.181 | 0.020 |
| 138 | 11.50 | 0.63 | 0.201 | ( 0.490) | 0.181 | 0.020 |
| 139 | 11.58 | 0.57 | 0.180 | ( 0.487) | 0.162 | 0.018 |
| 140 | 11.67 | 0.57 | 0.180 | ( 0.485) | 0.162 | 0.018 |
| 141 | 11.75 | 0.57 | 0.180 | ( 0.483) | 0.162 | 0.018 |
| 142 | 11.83 | 0.60 | 0.191 | ( 0.480) | 0.172 | 0.019 |
| 143 | 11.92 | 0.60 | 0.191 | ( 0.478) | 0.172 | 0.019 |
| 144 | 12.00 | 0.60 | 0.191 | ( 0.475) | 0.172 | 0.019 |
| 145 | 12.08 | 0.83 | 0.265 | ( 0.473) | 0.238 | 0.026 |
| 146 | 12.17 | 0.83 | 0.265 | ( 0.471) | 0.238 | 0.026 |
| 147 | 12.25 | 0.83 | 0.265 | ( 0.468) | 0.238 | 0.026 |
| 148 | 12.33 | 0.87 | 0.276 | ( 0.466) | 0.248 | 0.028 |
| 149 | 12.42 | 0.87 | 0.276 | ( 0.464) | 0.248 | 0.028 |
| 150 | 12.50 | 0.87 | 0.276 | ( 0.461) | 0.248 | 0.028 |
| 151 | 12.58 | 0.93 | 0.297 | ( 0.459) | 0.267 | 0.030 |
| 152 | 12.67 | 0.93 | 0.297 | ( 0.457) | 0.267 | 0.030 |
| 153 | 12.75 | 0.93 | 0.297 | ( 0.454) | 0.267 | 0.030 |
| 154 | 12.83 | 0.97 | 0.307 | ( 0.452) | 0.277 | 0.031 |
| 155 | 12.92 | 0.97 | 0.307 | ( 0.450) | 0.277 | 0.031 |
| 156 | 13.00 | 0.97 | 0.307 | ( 0.447) | 0.277 | 0.031 |
| 157 | 13.08 | 1.13 | 0.360 | ( 0.445) | 0.324 | 0.036 |
| 158 | 13.17 | 1.13 | 0.360 | ( 0.443) | 0.324 | 0.036 |
| 159 | 13.25 | 1.13 | 0.360 | ( 0.441) | 0.324 | 0.036 |
| 160 | 13.33 | 1.13 | 0.360 | ( 0.438) | 0.324 | 0.036 |
| 161 | 13.42 | 1.13 | 0.360 | ( 0.436) | 0.324 | 0.036 |
| 162 | 13.50 | 1.13 | 0.360 | ( 0.434) | 0.324 | 0.036 |
| 163 | 13.58 | 0.77 | 0.244 | ( 0.432) | 0.219 | 0.024 |
| 164 | 13.67 | 0.77 | 0.244 | ( 0.430) | 0.219 | 0.024 |
| 165 | 13.75 | 0.77 | 0.244 | ( 0.427) | 0.219 | 0.024 |
| 166 | 13.83 | 0.77 | 0.244 | ( 0.425) | 0.219 | 0.024 |
| 167 | 13.92 | 0.77 | 0.244 | ( 0.423) | 0.219 | 0.024 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 168 | 14.00 | 0.77 | 0.244 | ( | 0.421) | 0.219 | 0.024 |
| 169 | 14.08 | 0.90 | 0.286 | ( | 0.419) | 0.258 | 0.029 |
| 170 | 14.17 | 0.90 | 0.286 | ( | 0.417) | 0.258 | 0.029 |
| 171 | 14.25 | 0.90 | 0.286 | ( | 0.414) | 0.258 | 0.029 |
| 172 | 14.33 | 0.87 | 0.276 | ( | 0.412) | 0.248 | 0.028 |
| 173 | 14.42 | 0.87 | 0.276 | ( | 0.410) | 0.248 | 0.028 |
| 174 | 14.50 | 0.87 | 0.276 | ( | 0.408) | 0.248 | 0.028 |
| 175 | 14.58 | 0.87 | 0.276 | ( | 0.406) | 0.248 | 0.028 |
| 176 | 14.67 | 0.87 | 0.276 | ( | 0.404) | 0.248 | 0.028 |
| 177 | 14.75 | 0.87 | 0.276 | ( | 0.402) | 0.248 | 0.028 |
| 178 | 14.83 | 0.83 | 0.265 | ( | 0.400) | 0.238 | 0.026 |
| 179 | 14.92 | 0.83 | 0.265 | ( | 0.398) | 0.238 | 0.026 |
| 180 | 15.00 | 0.83 | 0.265 | ( | 0.396) | 0.238 | 0.026 |
| 181 | 15.08 | 0.80 | 0.254 | ( | 0.394) | 0.229 | 0.025 |
| 182 | 15.17 | 0.80 | 0.254 | ( | 0.392) | 0.229 | 0.025 |
| 183 | 15.25 | 0.80 | 0.254 | ( | 0.390) | 0.229 | 0.025 |
| 184 | 15.33 | 0.77 | 0.244 | ( | 0.388) | 0.219 | 0.024 |
| 185 | 15.42 | 0.77 | 0.244 | ( | 0.386) | 0.219 | 0.024 |
| 186 | 15.50 | 0.77 | 0.244 | ( | 0.384) | 0.219 | 0.024 |
| 187 | 15.58 | 0.63 | 0.201 | ( | 0.382) | 0.181 | 0.020 |
| 188 | 15.67 | 0.63 | 0.201 | ( | 0.380) | 0.181 | 0.020 |
| 189 | 15.75 | 0.63 | 0.201 | ( | 0.378) | 0.181 | 0.020 |
| 190 | 15.83 | 0.63 | 0.201 | ( | 0.376) | 0.181 | 0.020 |
| 191 | 15.92 | 0.63 | 0.201 | ( | 0.374) | 0.181 | 0.020 |
| 192 | 16.00 | 0.63 | 0.201 | ( | 0.372) | 0.181 | 0.020 |
| 193 | 16.08 | 0.13 | 0.042 | ( | 0.370) | 0.038 | 0.004 |
| 194 | 16.17 | 0.13 | 0.042 | ( | 0.368) | 0.038 | 0.004 |
| 195 | 16.25 | 0.13 | 0.042 | ( | 0.366) | 0.038 | 0.004 |
| 196 | 16.33 | 0.13 | 0.042 | ( | 0.365) | 0.038 | 0.004 |
| 197 | 16.42 | 0.13 | 0.042 | ( | 0.363) | 0.038 | 0.004 |
| 198 | 16.50 | 0.13 | 0.042 | ( | 0.361) | 0.038 | 0.004 |
| 199 | 16.58 | 0.10 | 0.032 | ( | 0.359) | 0.029 | 0.003 |
| 200 | 16.67 | 0.10 | 0.032 | ( | 0.357) | 0.029 | 0.003 |
| 201 | 16.75 | 0.10 | 0.032 | ( | 0.355) | 0.029 | 0.003 |
| 202 | 16.83 | 0.10 | 0.032 | ( | 0.354) | 0.029 | 0.003 |
| 203 | 16.92 | 0.10 | 0.032 | ( | 0.352) | 0.029 | 0.003 |
| 204 | 17.00 | 0.10 | 0.032 | ( | 0.350) | 0.029 | 0.003 |
| 205 | 17.08 | 0.17 | 0.053 | ( | 0.348) | 0.048 | 0.005 |
| 206 | 17.17 | 0.17 | 0.053 | ( | 0.346) | 0.048 | 0.005 |
| 207 | 17.25 | 0.17 | 0.053 | ( | 0.345) | 0.048 | 0.005 |
| 208 | 17.33 | 0.17 | 0.053 | ( | 0.343) | 0.048 | 0.005 |
| 209 | 17.42 | 0.17 | 0.053 | ( | 0.341) | 0.048 | 0.005 |
| 210 | 17.50 | 0.17 | 0.053 | ( | 0.340) | 0.048 | 0.005 |
| 211 | 17.58 | 0.17 | 0.053 | ( | 0.338) | 0.048 | 0.005 |
| 212 | 17.67 | 0.17 | 0.053 | ( | 0.336) | 0.048 | 0.005 |
| 213 | 17.75 | 0.17 | 0.053 | ( | 0.335) | 0.048 | 0.005 |
| 214 | 17.83 | 0.13 | 0.042 | ( | 0.333) | 0.038 | 0.004 |
| 215 | 17.92 | 0.13 | 0.042 | ( | 0.331) | 0.038 | 0.004 |
| 216 | 18.00 | 0.13 | 0.042 | ( | 0.330) | 0.038 | 0.004 |
| 217 | 18.08 | 0.13 | 0.042 | ( | 0.328) | 0.038 | 0.004 |
| 218 | 18.17 | 0.13 | 0.042 | ( | 0.326) | 0.038 | 0.004 |
| 219 | 18.25 | 0.13 | 0.042 | ( | 0.325) | 0.038 | 0.004 |
| 220 | 18.33 | 0.13 | 0.042 | ( | 0.323) | 0.038 | 0.004 |
| 221 | 18.42 | 0.13 | 0.042 | ( | 0.322) | 0.038 | 0.004 |
| 222 | 18.50 | 0.13 | 0.042 | ( | 0.320) | 0.038 | 0.004 |
| 223 | 18.58 | 0.10 | 0.032 | ( | 0.318) | 0.029 | 0.003 |
| 224 | 18.67 | 0.10 | 0.032 | ( | 0.317) | 0.029 | 0.003 |
| 225 | 18.75 | 0.10 | 0.032 | ( | 0.315) | 0.029 | 0.003 |
| 226 | 18.83 | 0.07 | 0.021 | ( | 0.314) | 0.019 | 0.002 |
| 227 | 18.92 | 0.07 | 0.021 | ( | 0.312) | 0.019 | 0.002 |
| 228 | 19.00 | 0.07 | 0.021 | ( | 0.311) | 0.019 | 0.002 |
| 229 | 19.08 | 0.10 | 0.032 | ( | 0.309) | 0.029 | 0.003 |
| 230 | 19.17 | 0.10 | 0.032 | ( | 0.308) | 0.029 | 0.003 |
| 231 | 19.25 | 0.10 | 0.032 | ( | 0.307) | 0.029 | 0.003 |
| 232 | 19.33 | 0.13 | 0.042 | ( | 0.305) | 0.038 | 0.004 |
| 233 | 19.42 | 0.13 | 0.042 | ( | 0.304) | 0.038 | 0.004 |
| 234 | 19.50 | 0.13 | 0.042 | ( | 0.302) | 0.038 | 0.004 |
| 235 | 19.58 | 0.10 | 0.032 | ( | 0.301) | 0.029 | 0.003 |
| 236 | 19.67 | 0.10 | 0.032 | ( | 0.300) | 0.029 | 0.003 |

```
237  19.75     0.10      0.032       (  0.298)       0.029        0.003
238  19.83     0.07      0.021       (  0.297)       0.019        0.002
239  19.92     0.07      0.021       (  0.296)       0.019        0.002
240  20.00     0.07      0.021       (  0.294)       0.019        0.002
241  20.08     0.10      0.032       (  0.293)       0.029        0.003
242  20.17     0.10      0.032       (  0.292)       0.029        0.003
243  20.25     0.10      0.032       (  0.290)       0.029        0.003
244  20.33     0.10      0.032       (  0.289)       0.029        0.003
245  20.42     0.10      0.032       (  0.288)       0.029        0.003
246  20.50     0.10      0.032       (  0.287)       0.029        0.003
247  20.58     0.10      0.032       (  0.285)       0.029        0.003
248  20.67     0.10      0.032       (  0.284)       0.029        0.003
249  20.75     0.10      0.032       (  0.283)       0.029        0.003
250  20.83     0.07      0.021       (  0.282)       0.019        0.002
251  20.92     0.07      0.021       (  0.281)       0.019        0.002
252  21.00     0.07      0.021       (  0.280)       0.019        0.002
253  21.08     0.10      0.032       (  0.279)       0.029        0.003
254  21.17     0.10      0.032       (  0.277)       0.029        0.003
255  21.25     0.10      0.032       (  0.276)       0.029        0.003
256  21.33     0.07      0.021       (  0.275)       0.019        0.002
257  21.42     0.07      0.021       (  0.274)       0.019        0.002
258  21.50     0.07      0.021       (  0.273)       0.019        0.002
259  21.58     0.10      0.032       (  0.272)       0.029        0.003
260  21.67     0.10      0.032       (  0.271)       0.029        0.003
261  21.75     0.10      0.032       (  0.270)       0.029        0.003
262  21.83     0.07      0.021       (  0.269)       0.019        0.002
263  21.92     0.07      0.021       (  0.268)       0.019        0.002
264  22.00     0.07      0.021       (  0.268)       0.019        0.002
265  22.08     0.10      0.032       (  0.267)       0.029        0.003
266  22.17     0.10      0.032       (  0.266)       0.029        0.003
267  22.25     0.10      0.032       (  0.265)       0.029        0.003
268  22.33     0.07      0.021       (  0.264)       0.019        0.002
269  22.42     0.07      0.021       (  0.263)       0.019        0.002
270  22.50     0.07      0.021       (  0.263)       0.019        0.002
271  22.58     0.07      0.021       (  0.262)       0.019        0.002
272  22.67     0.07      0.021       (  0.261)       0.019        0.002
273  22.75     0.07      0.021       (  0.260)       0.019        0.002
274  22.83     0.07      0.021       (  0.260)       0.019        0.002
275  22.92     0.07      0.021       (  0.259)       0.019        0.002
276  23.00     0.07      0.021       (  0.258)       0.019        0.002
277  23.08     0.07      0.021       (  0.258)       0.019        0.002
278  23.17     0.07      0.021       (  0.257)       0.019        0.002
279  23.25     0.07      0.021       (  0.257)       0.019        0.002
280  23.33     0.07      0.021       (  0.256)       0.019        0.002
281  23.42     0.07      0.021       (  0.256)       0.019        0.002
282  23.50     0.07      0.021       (  0.255)       0.019        0.002
283  23.58     0.07      0.021       (  0.255)       0.019        0.002
284  23.67     0.07      0.021       (  0.254)       0.019        0.002
285  23.75     0.07      0.021       (  0.254)       0.019        0.002
286  23.83     0.07      0.021       (  0.254)       0.019        0.002
287  23.92     0.07      0.021       (  0.254)       0.019        0.002
288  24.00     0.07      0.021       (  0.253)       0.019        0.002
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     3.2
       Flood volume = Effective rainfall      0.26(In)
        times area      14.3(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
       Total soil loss =      2.38(In)
       Total soil loss =     2.836(Ac.Ft)
       Total rainfall =      2.65(In)
       Flood volume =       13726.6 Cubic Feet
       Total soil loss =      123539.8 Cubic Feet
       ------------------------------------------------------------------
        Peak flow rate of this hydrograph =      0.516(CFS)
       ------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         24 - H O U R    S T O R M
                      R u n o f f     H y d r o g r a p h
       ------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))
```

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0000 | 0.01 | Q | \| | \| | \| | \| |
| 0+10 | 0.0002 | 0.02 | Q | \| | \| | \| | \| |
| 0+15 | 0.0003 | 0.03 | Q | \| | \| | \| | \| |
| 0+20 | 0.0006 | 0.03 | Q | \| | \| | \| | \| |
| 0+25 | 0.0008 | 0.04 | Q | \| | \| | \| | \| |
| 0+30 | 0.0011 | 0.04 | Q | \| | \| | \| | \| |
| 0+35 | 0.0014 | 0.04 | Q | \| | \| | \| | \| |
| 0+40 | 0.0017 | 0.04 | Q | \| | \| | \| | \| |
| 0+45 | 0.0020 | 0.05 | Q | \| | \| | \| | \| |
| 0+50 | 0.0024 | 0.05 | Q | \| | \| | \| | \| |
| 0+55 | 0.0027 | 0.06 | Q | \| | \| | \| | \| |
| 1+ 0 | 0.0031 | 0.06 | Q | \| | \| | \| | \| |
| 1+ 5 | 0.0035 | 0.06 | Q | \| | \| | \| | \| |
| 1+10 | 0.0039 | 0.05 | Q | \| | \| | \| | \| |
| 1+15 | 0.0042 | 0.05 | Q | \| | \| | \| | \| |
| 1+20 | 0.0045 | 0.05 | Q | \| | \| | \| | \| |
| 1+25 | 0.0049 | 0.05 | Q | \| | \| | \| | \| |
| 1+30 | 0.0052 | 0.05 | Q | \| | \| | \| | \| |
| 1+35 | 0.0055 | 0.05 | Q | \| | \| | \| | \| |
| 1+40 | 0.0058 | 0.05 | Q | \| | \| | \| | \| |
| 1+45 | 0.0061 | 0.05 | Q | \| | \| | \| | \| |
| 1+50 | 0.0065 | 0.05 | Q | \| | \| | \| | \| |
| 1+55 | 0.0068 | 0.06 | Q | \| | \| | \| | \| |
| 2+ 0 | 0.0072 | 0.06 | Q | \| | \| | \| | \| |
| 2+ 5 | 0.0077 | 0.06 | Q | \| | \| | \| | \| |
| 2+10 | 0.0081 | 0.06 | QV | \| | \| | \| | \| |
| 2+15 | 0.0085 | 0.06 | QV | \| | \| | \| | \| |
| 2+20 | 0.0089 | 0.06 | QV | \| | \| | \| | \| |
| 2+25 | 0.0093 | 0.06 | QV | \| | \| | \| | \| |
| 2+30 | 0.0097 | 0.06 | QV | \| | \| | \| | \| |
| 2+35 | 0.0102 | 0.06 | QV | \| | \| | \| | \| |
| 2+40 | 0.0107 | 0.07 | QV | \| | \| | \| | \| |
| 2+45 | 0.0112 | 0.07 | QV | \| | \| | \| | \| |
| 2+50 | 0.0117 | 0.07 | QV | \| | \| | \| | \| |
| 2+55 | 0.0122 | 0.08 | QV | \| | \| | \| | \| |
| 3+ 0 | 0.0127 | 0.08 | QV | \| | \| | \| | \| |
| 3+ 5 | 0.0133 | 0.08 | QV | \| | \| | \| | \| |
| 3+10 | 0.0138 | 0.08 | QV | \| | \| | \| | \| |
| 3+15 | 0.0143 | 0.08 | QV | \| | \| | \| | \| |
| 3+20 | 0.0148 | 0.08 | QV | \| | \| | \| | \| |
| 3+25 | 0.0154 | 0.08 | QV | \| | \| | \| | \| |
| 3+30 | 0.0159 | 0.08 | Q V | \| | \| | \| | \| |
| 3+35 | 0.0164 | 0.08 | Q V | \| | \| | \| | \| |
| 3+40 | 0.0169 | 0.08 | Q V | \| | \| | \| | \| |
| 3+45 | 0.0175 | 0.08 | Q V | \| | \| | \| | \| |
| 3+50 | 0.0180 | 0.08 | Q V | \| | \| | \| | \| |
| 3+55 | 0.0186 | 0.09 | Q V | \| | \| | \| | \| |
| 4+ 0 | 0.0192 | 0.09 | Q V | \| | \| | \| | \| |
| 4+ 5 | 0.0198 | 0.09 | Q V | \| | \| | \| | \| |
| 4+10 | 0.0204 | 0.09 | Q V | \| | \| | \| | \| |
| 4+15 | 0.0211 | 0.09 | Q V | \| | \| | \| | \| |
| 4+20 | 0.0217 | 0.09 | Q V | \| | \| | \| | \| |
| 4+25 | 0.0224 | 0.10 | Q V | \| | \| | \| | \| |
| 4+30 | 0.0231 | 0.10 | Q V | \| | \| | \| | \| |
| 4+35 | 0.0239 | 0.11 | Q V | \| | \| | \| | \| |
| 4+40 | 0.0246 | 0.11 | Q V | \| | \| | \| | \| |
| 4+45 | 0.0253 | 0.11 | Q V | \| | \| | \| | \| |
| 4+50 | 0.0261 | 0.11 | Q V | \| | \| | \| | \| |
| 4+55 | 0.0269 | 0.12 | Q V | \| | \| | \| | \| |
| 5+ 0 | 0.0277 | 0.12 | Q V | \| | \| | \| | \| |
| 5+ 5 | 0.0285 | 0.11 | Q V | \| | \| | \| | \| |
| 5+10 | 0.0292 | 0.10 | Q V | \| | \| | \| | \| |
| 5+15 | 0.0298 | 0.10 | Q V | \| | \| | \| | \| |
| 5+20 | 0.0305 | 0.10 | Q V | \| | \| | \| | \| |
| 5+25 | 0.0312 | 0.10 | Q V | \| | \| | \| | \| |

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 5+30      0.0320      0.11  Q   V     |         |         |         |
 5+35      0.0327      0.11  Q   V     |         |         |         |
 5+40      0.0335      0.12  Q   V     |         |         |         |
 5+45      0.0343      0.12  Q   V     |         |         |         |
 5+50      0.0351      0.12  Q   V     |         |         |         |
 5+55      0.0360      0.12  Q   V     |         |         |         |
 6+ 0      0.0368      0.12  Q   V     |         |         |         |
 6+ 5      0.0377      0.12  Q   V     |         |         |         |
 6+10      0.0386      0.13  Q   V     |         |         |         |
 6+15      0.0395      0.13  Q    V    |         |         |         |
 6+20      0.0404      0.14  Q    V    |         |         |         |
 6+25      0.0414      0.14  Q    V    |         |         |         |
 6+30      0.0423      0.14  Q    V    |         |         |         |
 6+35      0.0433      0.14  Q    V    |         |         |         |
 6+40      0.0443      0.15  Q    V    |         |         |         |
 6+45      0.0453      0.15  Q    V    |         |         |         |
 6+50      0.0464      0.15  Q    V    |         |         |         |
 6+55      0.0474      0.15  Q     V   |         |         |         |
 7+ 0      0.0485      0.15  Q     V   |         |         |         |
 7+ 5      0.0495      0.15  Q     V   |         |         |         |
 7+10      0.0506      0.15  Q     V   |         |         |         |
 7+15      0.0516      0.15  Q     V   |         |         |         |
 7+20      0.0527      0.16  Q     V   |         |         |         |
 7+25      0.0538      0.16  Q     V   |         |         |         |
 7+30      0.0549      0.17  Q     V   |         |         |         |
 7+35      0.0561      0.17  Q      V  |         |         |         |
 7+40      0.0573      0.18  Q      V  |         |         |         |
 7+45      0.0586      0.18  Q      V  |         |         |         |
 7+50      0.0598      0.18  Q      V  |         |         |         |
 7+55      0.0611      0.19  Q      V  |         |         |         |
 8+ 0      0.0625      0.20  Q      V  |         |         |         |
 8+ 5      0.0639      0.20  Q       V |         |         |         |
 8+10      0.0654      0.22  Q       V |         |         |         |
 8+15      0.0669      0.22  Q       V |         |         |         |
 8+20      0.0685      0.23  Q       V |         |         |         |
 8+25      0.0700      0.23  Q       V |         |         |         |
 8+30      0.0716      0.23  Q        V|         |         |         |
 8+35      0.0732      0.23  Q        V|         |         |         |
 8+40      0.0748      0.24  Q        V|         |         |         |
 8+45      0.0765      0.24  Q        V|         |         |         |
 8+50      0.0782      0.25  Q        V|         |         |         |
 8+55      0.0799      0.25  |Q        V         |         |         |
 9+ 0      0.0817      0.26  |Q        V         |         |         |
 9+ 5      0.0835      0.26  |Q        V         |         |         |
 9+10      0.0854      0.28  |Q        V         |         |         |
 9+15      0.0874      0.28  |Q        |V        |         |         |
 9+20      0.0893      0.29  |Q        |V        |         |         |
 9+25      0.0914      0.30  |Q        |V        |         |         |
 9+30      0.0935      0.30  |Q        |V        |         |         |
 9+35      0.0956      0.31  |Q        | V       |         |         |
 9+40      0.0977      0.31  |Q        | V       |         |         |
 9+45      0.0999      0.32  |Q        | V       |         |         |
 9+50      0.1021      0.32  |Q        | V       |         |         |
 9+55      0.1044      0.33  |Q        |  V      |         |         |
10+ 0      0.1067      0.33  |Q        |  V      |         |         |
10+ 5      0.1089      0.31  |Q        |  V      |         |         |
10+10      0.1107      0.26  |Q        |   V     |         |         |
10+15      0.1124      0.25  Q         |   V     |         |         |
10+20      0.1140      0.24  Q         |   V     |         |         |
10+25      0.1157      0.24  Q         |   V     |         |         |
10+30      0.1173      0.23  Q         |   V     |         |         |
10+35      0.1189      0.24  Q         |    V    |         |         |
10+40      0.1209      0.28  |Q        |    V    |         |         |
10+45      0.1229      0.29  |Q        |    V    |         |         |
10+50      0.1249      0.30  |Q        |    V    |         |         |
10+55      0.1270      0.30  |Q        |     V   |         |         |
11+ 0      0.1291      0.30  |Q        |     V   |         |         |
11+ 5      0.1311      0.30  |Q        |     V   |         |         |
11+10      0.1332      0.29  |Q        |     V   |         |         |
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11+15       0.1352      0.29  |Q        |      V  |         |         |
11+20       0.1372      0.29  |Q        |      V  |         |         |
11+25       0.1392      0.29  |Q        |      V  |         |         |
11+30       0.1412      0.29  |Q        |      V  |         |         |
11+35       0.1431      0.28  |Q        |       V |         |         |
11+40       0.1450      0.27  |Q        |       V |         |         |
11+45       0.1468      0.26  |Q        |       V |         |         |
11+50       0.1487      0.27  |Q        |       V |         |         |
11+55       0.1505      0.27  |Q        |        V|         |         |
12+ 0       0.1524      0.27  |Q        |        V|         |         |
12+ 5       0.1544      0.29  |Q        |        V|         |         |
12+10       0.1568      0.34  |Q        |        V|         |         |
12+15       0.1593      0.36  |Q        |         V         |         |
12+20       0.1618      0.37  |Q        |         V         |         |
12+25       0.1645      0.38  |Q        |         V         |         |
12+30       0.1672      0.39  |Q        |         |V        |         |
12+35       0.1699      0.40  |Q        |         |V        |         |
12+40       0.1728      0.41  |Q        |         |V        |         |
12+45       0.1757      0.42  |Q        |         | V       |         |
12+50       0.1786      0.43  |Q        |         | V       |         |
12+55       0.1816      0.44  |Q        |         |  V      |         |
13+ 0       0.1846      0.44  |Q        |         |  V      |         |
13+ 5       0.1878      0.45  |Q        |         |  V      |         |
13+10       0.1911      0.49  |Q        |         |   V     |         |
13+15       0.1946      0.50  | Q       |         |   V     |         |
13+20       0.1981      0.51  | Q       |         |    V    |         |
13+25       0.2017      0.51  | Q       |         |    V    |         |
13+30       0.2052      0.52  | Q       |         |     V   |         |
13+35       0.2086      0.49  |Q        |         |     V   |         |
13+40       0.2114      0.41  |Q        |         |     V   |         |
13+45       0.2140      0.38  |Q        |         |      V  |         |
13+50       0.2165      0.37  |Q        |         |      V  |         |
13+55       0.2190      0.36  |Q        |         |      V  |         |
14+ 0       0.2215      0.36  |Q        |         |       V |         |
14+ 5       0.2240      0.36  |Q        |         |       V |         |
14+10       0.2267      0.39  |Q        |         |       V |         |
14+15       0.2295      0.40  |Q        |         |        V|         |
14+20       0.2322      0.40  |Q        |         |        V|         |
14+25       0.2350      0.40  |Q        |         |        V|         |
14+30       0.2377      0.40  |Q        |         |         V         |
14+35       0.2404      0.40  |Q        |         |         V         |
14+40       0.2432      0.40  |Q        |         |         V         |
14+45       0.2459      0.40  |Q        |         |         |V        |
14+50       0.2486      0.39  |Q        |         |         |V        |
14+55       0.2513      0.39  |Q        |         |         |V        |
15+ 0       0.2539      0.38  |Q        |         |         | V       |
15+ 5       0.2566      0.38  |Q        |         |         | V       |
15+10       0.2591      0.37  |Q        |         |         | V       |
15+15       0.2617      0.37  |Q        |         |         |  V      |
15+20       0.2642      0.37  |Q        |         |         |  V      |
15+25       0.2666      0.36  |Q        |         |         |  V      |
15+30       0.2691      0.35  |Q        |         |         |   V     |
15+35       0.2714      0.34  |Q        |         |         |   V     |
15+40       0.2736      0.31  |Q        |         |         |   V     |
15+45       0.2756      0.30  |Q        |         |         |   V     |
15+50       0.2777      0.30  |Q        |         |         |    V    |
15+55       0.2797      0.29  |Q        |         |         |    V    |
16+ 0       0.2817      0.29  |Q        |         |         |    V    |
16+ 5       0.2834      0.25  Q        |         |         |    V    |
16+10       0.2844      0.14  Q        |         |         |     V   |
16+15       0.2851      0.10  Q        |         |         |     V   |
16+20       0.2857      0.08  Q        |         |         |     V   |
16+25       0.2862      0.08  Q        |         |         |     V   |
16+30       0.2867      0.07  Q        |         |         |     V   |
16+35       0.2871      0.06  Q        |         |         |     V   |
16+40       0.2875      0.05  Q        |         |         |     V   |
16+45       0.2878      0.05  Q        |         |         |     V   |
16+50       0.2881      0.05  Q        |         |         |     V   |
16+55       0.2885      0.05  Q        |         |         |     V   |
```

```
17+ 0       0.2888      0.05  Q        |         |         |     V   |
17+ 5       0.2891      0.05  Q        |         |         |     V   |
17+10       0.2896      0.07  Q        |         |         |     V   |
17+15       0.2901      0.07  Q        |         |         |     V   |
17+20       0.2906      0.07  Q        |         |         |     V   |
17+25       0.2911      0.07  Q        |         |         |     V   |
17+30       0.2916      0.08  Q        |         |         |      V  |
17+35       0.2921      0.08  Q        |         |         |      V  |
17+40       0.2927      0.08  Q        |         |         |      V  |
17+45       0.2932      0.08  Q        |         |         |      V  |
17+50       0.2937      0.07  Q        |         |         |      V  |
17+55       0.2941      0.07  Q        |         |         |      V  |
18+ 0       0.2946      0.06  Q        |         |         |      V  |
18+ 5       0.2950      0.06  Q        |         |         |      V  |
18+10       0.2954      0.06  Q        |         |         |      V  |
18+15       0.2959      0.06  Q        |         |         |      V  |
18+20       0.2963      0.06  Q        |         |         |      V  |
18+25       0.2967      0.06  Q        |         |         |      V  |
18+30       0.2971      0.06  Q        |         |         |      V  |
18+35       0.2975      0.06  Q        |         |         |      V  |
18+40       0.2979      0.05  Q        |         |         |      V  |
18+45       0.2982      0.05  Q        |         |         |      V  |
18+50       0.2985      0.04  Q        |         |         |      V  |
18+55       0.2988      0.04  Q        |         |         |      V  |
19+ 0       0.2990      0.03  Q        |         |         |      V  |
19+ 5       0.2992      0.04  Q        |         |         |      V  |
19+10       0.2995      0.04  Q        |         |         |       V |
19+15       0.2998      0.04  Q        |         |         |       V |
19+20       0.3002      0.05  Q        |         |         |       V |
19+25       0.3005      0.05  Q        |         |         |       V |
19+30       0.3009      0.06  Q        |         |         |       V |
19+35       0.3013      0.06  Q        |         |         |       V |
19+40       0.3017      0.05  Q        |         |         |       V |
19+45       0.3020      0.05  Q        |         |         |       V |
19+50       0.3023      0.04  Q        |         |         |       V |
19+55       0.3026      0.04  Q        |         |         |       V |
20+ 0       0.3028      0.03  Q        |         |         |       V |
20+ 5       0.3030      0.04  Q        |         |         |       V |
20+10       0.3033      0.04  Q        |         |         |       V |
20+15       0.3036      0.04  Q        |         |         |       V |
20+20       0.3039      0.04  Q        |         |         |       V |
20+25       0.3042      0.04  Q        |         |         |       V |
20+30       0.3045      0.05  Q        |         |         |       V |
20+35       0.3049      0.05  Q        |         |         |       V |
20+40       0.3052      0.05  Q        |         |         |       V |
20+45       0.3055      0.05  Q        |         |         |       V |
20+50       0.3058      0.04  Q        |         |         |       V |
20+55       0.3060      0.04  Q        |         |         |       V |
21+ 0       0.3063      0.03  Q        |         |         |       V |
21+ 5       0.3065      0.03  Q        |         |         |       V |
21+10       0.3068      0.04  Q        |         |         |       V |
21+15       0.3071      0.04  Q        |         |         |       V |
21+20       0.3074      0.04  Q        |         |         |        V|
21+25       0.3076      0.03  Q        |         |         |        V|
21+30       0.3078      0.03  Q        |         |         |        V|
21+35       0.3081      0.03  Q        |         |         |        V|
21+40       0.3084      0.04  Q        |         |         |        V|
21+45       0.3087      0.04  Q        |         |         |        V|
21+50       0.3089      0.04  Q        |         |         |        V|
21+55       0.3092      0.03  Q        |         |         |        V|
22+ 0       0.3094      0.03  Q        |         |         |        V|
22+ 5       0.3097      0.03  Q        |         |         |        V|
22+10       0.3099      0.04  Q        |         |         |        V|
22+15       0.3102      0.04  Q        |         |         |        V|
22+20       0.3105      0.04  Q        |         |         |        V|
22+25       0.3108      0.03  Q        |         |         |        V|
22+30       0.3110      0.03  Q        |         |         |        V|
22+35       0.3112      0.03  Q        |         |         |        V|
22+40       0.3114      0.03  Q        |         |         |        V|
```

```
   22+45       0.3116      0.03  Q        |         |         |        V|
   22+50       0.3118      0.03  Q        |         |         |        V|
   22+55       0.3121      0.03  Q        |         |         |        V|
   23+ 0       0.3123      0.03  Q        |         |         |        V|
   23+ 5       0.3125      0.03  Q        |         |         |        V|
   23+10       0.3127      0.03  Q        |         |         |        V|
   23+15       0.3129      0.03  Q        |         |         |        V|
   23+20       0.3131      0.03  Q        |         |         |        V|
   23+25       0.3133      0.03  Q        |         |         |        V|
   23+30       0.3135      0.03  Q        |         |         |        V|
   23+35       0.3137      0.03  Q        |         |         |        V|
   23+40       0.3140      0.03  Q        |         |         |        V|
   23+45       0.3142      0.03  Q        |         |         |        V|
   23+50       0.3144      0.03  Q        |         |         |        V|
   23+55       0.3146      0.03  Q        |         |         |        V|
   24+ 0       0.3148      0.03  Q        |         |         |        V|
   24+ 5       0.3150      0.03  Q        |         |         |        V|
   24+10       0.3150      0.01  Q        |         |         |        V|
   24+15       0.3151      0.01  Q        |         |         |        V|
   24+20       0.3151      0.00  Q        |         |         |        V|
   24+25       0.3151      0.00  Q        |         |         |        V|
   24+30       0.3151      0.00  Q        |         |         |        V|
   24+35       0.3151      0.00  Q        |         |         |        V|
   24+40       0.3151      0.00  Q        |         |         |        V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD15.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
5-YEAR STORM
BY: JTS DATE: 02-28-23
---

Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1464.00(Ft.)
Length along longest watercourse measured to centroid = 865.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.164 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.087 Hr.
Lag time = 5.21 Min.
25% of lag time = 1.30 Min.
40% of lag time = 2.09 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.56 | 7.99 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.28 | 18.27 |

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.560(In)
Area Averaged 100-Year Rainfall = 1.280(In)

Point rain (area averaged) = 0.729(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.729(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
    14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 74.5  56.4      0.507     0.000        0.507       1.000      0.507
                                                  Sum (F) =   0.507
 Area averaged mean soil loss (F) (In/Hr) =  0.507
 Minimum soil loss rate ((In/Hr)) =  0.253
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.900
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5300
 ------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
 ------------------------------------------------------------------
               Unit Hydrograph Data
 ------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %           (CFS)
 ------------------------------------------------------------------
     1   0.083         95.911         17.950             2.581
     2   0.167        191.821         48.005             6.904
     3   0.250        287.732         16.296             2.344
     4   0.333        383.642          7.287             1.048
     5   0.417        479.553          4.148             0.597
     6   0.500        575.463          2.689             0.387
     7   0.583        671.374          1.732             0.249
     8   0.667        767.284          1.088             0.156
     9   0.750        863.195          0.807             0.116
                                Sum = 100.000   Sum=      14.381
-----------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     3.40      0.297       (  0.507)       0.268        0.030
   2   0.17     4.70      0.411       (  0.507)       0.370        0.041
   3   0.25     4.70      0.411       (  0.507)       0.370        0.041
   4   0.33     5.10      0.446       (  0.507)       0.401        0.045
   5   0.42     5.80      0.507       (  0.507)       0.456        0.051
   6   0.50     5.90      0.516       (  0.507)       0.464        0.052
   7   0.58     7.10      0.621          0.507    (  0.559)        0.114
   8   0.67     8.70      0.761          0.507    (  0.685)        0.254
   9   0.75    13.20      1.154          0.507    (  1.039)        0.647
  10   0.83    29.70      2.597          0.507    (  2.337)        2.090
  11   0.92     7.70      0.673          0.507    (  0.606)        0.166
  12   1.00     4.00      0.350       (  0.507)       0.315        0.035
               (Loss Rate Not Used)
     Sum =     100.0                                  Sum =     3.6
        Flood volume = Effective rainfall      0.30(In)
         times area      14.3(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
        Total soil loss =      0.43(In)
        Total soil loss =     0.513(Ac.Ft)
        Total rainfall =      0.73(In)
        Flood volume =       15389.9 Cubic Feet
        Total soil loss =       22348.9 Cubic Feet
        ---------------------------------------------------------------
         Peak flow rate of this hydrograph =     16.761(CFS)
        ---------------------------------------------------------------
        +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          1 - H O U R    S T O R M
                     R u n o f f     H y d r o g r a p h
```

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0005 | 0.08 | Q | | | | |
| 0+10 | 0.0027 | 0.31 | Q | | | | |
| 0+15 | 0.0058 | 0.46 | Q | | | | |
| 0+20 | 0.0095 | 0.53 | Q | | | | |
| 0+25 | 0.0136 | 0.60 | Q | | | | |
| 0+30 | 0.0182 | 0.67 | QV | | | | |
| 0+35 | 0.0241 | 0.86 | QV | | | | |
| 0+40 | 0.0357 | 1.67 | QV | | | | |
| 0+45 | 0.0619 | 3.81 | Q | | | | |
| 0+50 | 0.1353 | 10.66 | | V | Q | | |
| 0+55 | 0.2507 | 16.76 | | | V | Q | |
| 1+ 0 | 0.2992 | 7.04 | | Q | | V | |
| 1+ 5 | 0.3223 | 3.35 | Q | | | | V |
| 1+10 | 0.3350 | 1.84 | Q | | | | V |
| 1+15 | 0.3430 | 1.16 | Q | | | | V |
| 1+20 | 0.3480 | 0.74 | Q | | | | V |
| 1+25 | 0.3512 | 0.46 | Q | | | | V |
| 1+30 | 0.3531 | 0.28 | Q | | | | V |
| 1+35 | 0.3533 | 0.02 | Q | | | | V |
| 1+40 | 0.3533 | 0.00 | Q | | | | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD35.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
5-YEAR STORM
BY: JTS DATE: 02-28-23
---
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1464.00(Ft.)
Length along longest watercourse measured to centroid = 865.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.164 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.087 Hr.
Lag time = 5.21 Min.
25% of lag time = 1.30 Min.
40% of lag time = 2.09 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.96 | 13.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.23 | 31.82 |

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.960(In)
Area Averaged 100-Year Rainfall = 2.230(In)

Point rain (area averaged) = 1.257(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.257(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
    14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  56.4      0.507     0.000        0.507       1.000      0.507
                                                 Sum (F) =   0.507
Area averaged mean soil loss (F) (In/Hr) =  0.507
Minimum soil loss rate ((In/Hr)) =  0.253
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     1.30      0.196       (  0.507)       0.177        0.020
   2   0.17     1.30      0.196       (  0.507)       0.177        0.020
   3   0.25     1.10      0.166       (  0.507)       0.149        0.017
   4   0.33     1.50      0.226       (  0.507)       0.204        0.023
   5   0.42     1.50      0.226       (  0.507)       0.204        0.023
   6   0.50     1.80      0.272       (  0.507)       0.244        0.027
   7   0.58     1.50      0.226       (  0.507)       0.204        0.023
   8   0.67     1.80      0.272       (  0.507)       0.244        0.027
   9   0.75     1.80      0.272       (  0.507)       0.244        0.027
  10   0.83     1.50      0.226       (  0.507)       0.204        0.023
  11   0.92     1.60      0.241       (  0.507)       0.217        0.024
  12   1.00     1.80      0.272       (  0.507)       0.244        0.027
  13   1.08     2.20      0.332       (  0.507)       0.299        0.033
  14   1.17     2.20      0.332       (  0.507)       0.299        0.033
  15   1.25     2.20      0.332       (  0.507)       0.299        0.033
  16   1.33     2.00      0.302       (  0.507)       0.272        0.030
  17   1.42     2.60      0.392       (  0.507)       0.353        0.039
  18   1.50     2.70      0.407       (  0.507)       0.367        0.041
  19   1.58     2.40      0.362       (  0.507)       0.326        0.036
  20   1.67     2.70      0.407       (  0.507)       0.367        0.041
  21   1.75     3.30      0.498       (  0.507)       0.448        0.050
  22   1.83     3.10      0.468       (  0.507)       0.421        0.047
  23   1.92     2.90      0.438       (  0.507)       0.394        0.044
  24   2.00     3.00      0.453       (  0.507)       0.407        0.045
  25   2.08     3.10      0.468       (  0.507)       0.421        0.047
  26   2.17     4.20      0.634          0.507    (  0.570)        0.127
  27   2.25     5.00      0.754          0.507    (  0.679)        0.248
  28   2.33     3.50      0.528       (  0.507)       0.475        0.053
  29   2.42     6.80      1.026          0.507    (  0.923)        0.519
```

```
30   2.50     7.30      1.101          0.507    (  0.991)        0.595
31   2.58     8.20      1.237          0.507    (  1.114)        0.731
32   2.67     5.90      0.890          0.507    (  0.801)        0.384
33   2.75     2.00      0.302       (  0.507)       0.272        0.030
34   2.83     1.80      0.272       (  0.507)       0.244        0.027
35   2.92     1.80      0.272       (  0.507)       0.244        0.027
36   3.00     0.60      0.091       (  0.507)       0.081        0.009
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =     3.5
      Flood volume = Effective rainfall      0.30(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
      Total soil loss =      0.96(In)
      Total soil loss =     1.144(Ac.Ft)
      Total rainfall =      1.26(In)
      Flood volume =       15312.9 Cubic Feet
      Total soil loss =       49819.9 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      8.147(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0003      0.05  Q         |         |         |         |
  0+10       0.0016      0.19  Q         |         |         |         |
  0+15       0.0032      0.22  Q         |         |         |         |
  0+20       0.0048      0.24  Q         |         |         |         |
  0+25       0.0068      0.29  VQ        |         |         |         |
  0+30       0.0090      0.32  |Q        |         |         |         |
  0+35       0.0114      0.35  |Q        |         |         |         |
  0+40       0.0137      0.34  |Q        |         |         |         |
  0+45       0.0163      0.37  |Q        |         |         |         |
  0+50       0.0188      0.37  |QV       |         |         |         |
  0+55       0.0212      0.35  |QV       |         |         |         |
  1+ 0       0.0236      0.36  |QV       |         |         |         |
  1+ 5       0.0263      0.39  |QV       |         |         |         |
  1+10       0.0294      0.44  |Q V      |         |         |         |
  1+15       0.0325      0.46  |Q V      |         |         |         |
  1+20       0.0357      0.46  |Q  V     |         |         |         |
  1+25       0.0389      0.47  |Q  V     |         |         |         |
  1+30       0.0425      0.53  | Q V     |         |         |         |
  1+35       0.0463      0.55  | Q  V    |         |         |         |
  1+40       0.0500      0.54  | Q  V    |         |         |         |
  1+45       0.0541      0.59  | Q   V   |         |         |         |
  1+50       0.0586      0.65  | Q   V   |         |         |         |
  1+55       0.0631      0.65  | Q    V  |         |         |         |
  2+ 0       0.0675      0.64  | Q    V  |         |         |         |
  2+ 5       0.0720      0.65  | Q     V |         |         |         |
  2+10       0.0780      0.87  |  Q    V |         |         |         |
  2+15       0.0899      1.74  |     Q   V         |         |         |
  2+20       0.1055      2.26  |        Q| V       |         |         |
  2+25       0.1227      2.49  |        Q|  V      |         |         |
  2+30       0.1614      5.62  |         |       V | Q       |         |
  2+35       0.2130      7.49  |         |         |   V    Q|         |
  2+40       0.2691      8.15  |         |         |         V Q       |
  2+45       0.3068      5.48  |         |         |Q        |   V     |
  2+50       0.3245      2.57  |         Q         |         |     V   |
  2+55       0.3353      1.56  |     Q   |         |         |       V |
  3+ 0       0.3425      1.05  |   Q     |         |         |       V |
  3+ 5       0.3471      0.66  | Q       |         |         |        V|
  3+10       0.3495      0.36  |Q        |         |         |        V|
  3+15       0.3508      0.19  Q         |         |         |        V|
  3+20       0.3513      0.07  Q         |         |         |        V|
  3+25       0.3514      0.02  Q         |         |         |        V|
```

```
    3+30       0.3515      0.01  Q        |        |        |       V|
    3+35       0.3515      0.00  Q        |        |        |       V|
    3+40       0.3515      0.00  Q        |        |        |        V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD65.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

----------------------------------------------------------------------
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

----------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
5-YEAR STORM
BY: JTS DATE: 02-28-23
----------------------------------------------------------------------
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1464.00(Ft.)
Length along longest watercourse measured to centroid = 865.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.164 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.087 Hr.
Lag time = 5.21 Min.
25% of lag time = 1.30 Min.
40% of lag time = 2.09 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.42 | 20.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 3.15 | 44.95 |

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.420(In)
Area Averaged 100-Year Rainfall = 3.150(In)

Point rain (area averaged) = 1.825(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.825(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
    14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  56.4      0.507     0.000        0.507       1.000      0.507
                                                 Sum (F) =   0.507
Area averaged mean soil loss (F) (In/Hr) =  0.507
Minimum soil loss rate ((In/Hr)) =  0.253
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)        Max    |   Low        (In/Hr)
   1   0.08     0.50      0.110       (  0.507)       0.099        0.011
   2   0.17     0.60      0.131       (  0.507)       0.118        0.013
   3   0.25     0.60      0.131       (  0.507)       0.118        0.013
   4   0.33     0.60      0.131       (  0.507)       0.118        0.013
   5   0.42     0.60      0.131       (  0.507)       0.118        0.013
   6   0.50     0.70      0.153       (  0.507)       0.138        0.015
   7   0.58     0.70      0.153       (  0.507)       0.138        0.015
   8   0.67     0.70      0.153       (  0.507)       0.138        0.015
   9   0.75     0.70      0.153       (  0.507)       0.138        0.015
  10   0.83     0.70      0.153       (  0.507)       0.138        0.015
  11   0.92     0.70      0.153       (  0.507)       0.138        0.015
  12   1.00     0.80      0.175       (  0.507)       0.158        0.018
  13   1.08     0.80      0.175       (  0.507)       0.158        0.018
  14   1.17     0.80      0.175       (  0.507)       0.158        0.018
  15   1.25     0.80      0.175       (  0.507)       0.158        0.018
  16   1.33     0.80      0.175       (  0.507)       0.158        0.018
  17   1.42     0.80      0.175       (  0.507)       0.158        0.018
  18   1.50     0.80      0.175       (  0.507)       0.158        0.018
  19   1.58     0.80      0.175       (  0.507)       0.158        0.018
  20   1.67     0.80      0.175       (  0.507)       0.158        0.018
  21   1.75     0.80      0.175       (  0.507)       0.158        0.018
  22   1.83     0.80      0.175       (  0.507)       0.158        0.018
  23   1.92     0.80      0.175       (  0.507)       0.158        0.018
  24   2.00     0.90      0.197       (  0.507)       0.177        0.020
  25   2.08     0.80      0.175       (  0.507)       0.158        0.018
  26   2.17     0.90      0.197       (  0.507)       0.177        0.020
  27   2.25     0.90      0.197       (  0.507)       0.177        0.020
  28   2.33     0.90      0.197       (  0.507)       0.177        0.020
  29   2.42     0.90      0.197       (  0.507)       0.177        0.020
```

```
30   2.50     0.90      0.197       (  0.507)       0.177        0.020
31   2.58     0.90      0.197       (  0.507)       0.177        0.020
32   2.67     0.90      0.197       (  0.507)       0.177        0.020
33   2.75     1.00      0.219       (  0.507)       0.197        0.022
34   2.83     1.00      0.219       (  0.507)       0.197        0.022
35   2.92     1.00      0.219       (  0.507)       0.197        0.022
36   3.00     1.00      0.219       (  0.507)       0.197        0.022
37   3.08     1.00      0.219       (  0.507)       0.197        0.022
38   3.17     1.10      0.241       (  0.507)       0.217        0.024
39   3.25     1.10      0.241       (  0.507)       0.217        0.024
40   3.33     1.10      0.241       (  0.507)       0.217        0.024
41   3.42     1.20      0.263       (  0.507)       0.237        0.026
42   3.50     1.30      0.285       (  0.507)       0.256        0.028
43   3.58     1.40      0.307       (  0.507)       0.276        0.031
44   3.67     1.40      0.307       (  0.507)       0.276        0.031
45   3.75     1.50      0.329       (  0.507)       0.296        0.033
46   3.83     1.50      0.329       (  0.507)       0.296        0.033
47   3.92     1.60      0.350       (  0.507)       0.315        0.035
48   4.00     1.60      0.350       (  0.507)       0.315        0.035
49   4.08     1.70      0.372       (  0.507)       0.335        0.037
50   4.17     1.80      0.394       (  0.507)       0.355        0.039
51   4.25     1.90      0.416       (  0.507)       0.375        0.042
52   4.33     2.00      0.438       (  0.507)       0.394        0.044
53   4.42     2.10      0.460       (  0.507)       0.414        0.046
54   4.50     2.10      0.460       (  0.507)       0.414        0.046
55   4.58     2.20      0.482       (  0.507)       0.434        0.048
56   4.67     2.30      0.504       (  0.507)       0.453        0.050
57   4.75     2.40      0.526       (  0.507)       0.473        0.053
58   4.83     2.40      0.526       (  0.507)       0.473        0.053
59   4.92     2.50      0.548       (  0.507)       0.493        0.055
60   5.00     2.60      0.569          0.507    (  0.512)        0.063
61   5.08     3.10      0.679          0.507    (  0.611)        0.172
62   5.17     3.60      0.788          0.507    (  0.710)        0.282
63   5.25     3.90      0.854          0.507    (  0.769)        0.347
64   5.33     4.20      0.920          0.507    (  0.828)        0.413
65   5.42     4.70      1.029          0.507    (  0.926)        0.523
66   5.50     5.60      1.226          0.507    (  1.104)        0.720
67   5.58     1.90      0.416       (  0.507)       0.375        0.042
68   5.67     0.90      0.197       (  0.507)       0.177        0.020
69   5.75     0.60      0.131       (  0.507)       0.118        0.013
70   5.83     0.50      0.110       (  0.507)       0.099        0.011
71   5.92     0.30      0.066       (  0.507)       0.059        0.007
72   6.00     0.20      0.044       (  0.507)       0.039        0.004
              (Loss Rate Not Used)
   Sum =     100.0                                  Sum =     4.1
      Flood volume = Effective rainfall      0.34(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
      Total soil loss =      1.48(In)
      Total soil loss =     1.764(Ac.Ft)
      Total rainfall =      1.83(In)
      Flood volume =       17711.9 Cubic Feet
      Total soil loss =       76829.5 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      7.113(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         6 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.03  Q         |         |         |         |
  0+10       0.0009      0.11  Q         |         |         |         |
  0+15       0.0020      0.15  Q         |         |         |         |
  0+20       0.0031      0.17  Q         |         |         |         |
  0+25       0.0043      0.18  Q         |         |         |         |
```

```
0+30       0.0056      0.19  Q         |         |         |         |
0+35       0.0071      0.21  Q         |         |         |         |
0+40       0.0085      0.21  Q         |         |         |         |
0+45       0.0100      0.22  Q         |         |         |         |
0+50       0.0115      0.22  QV        |         |         |         |
0+55       0.0130      0.22  QV        |         |         |         |
1+ 0       0.0146      0.23  QV        |         |         |         |
1+ 5       0.0162      0.24  QV        |         |         |         |
1+10       0.0179      0.25  QV        |         |         |         |
1+15       0.0197      0.25  QV        |         |         |         |
1+20       0.0214      0.25  |QV       |         |         |         |
1+25       0.0231      0.25  |QV       |         |         |         |
1+30       0.0248      0.25  |QV       |         |         |         |
1+35       0.0266      0.25  |QV       |         |         |         |
1+40       0.0283      0.25  |QV       |         |         |         |
1+45       0.0300      0.25  |QV       |         |         |         |
1+50       0.0318      0.25  |Q V      |         |         |         |
1+55       0.0335      0.25  |Q V      |         |         |         |
2+ 0       0.0353      0.26  |Q V      |         |         |         |
2+ 5       0.0371      0.27  |Q V      |         |         |         |
2+10       0.0389      0.26  |Q V      |         |         |         |
2+15       0.0408      0.28  |Q  V     |         |         |         |
2+20       0.0428      0.28  |Q  V     |         |         |         |
2+25       0.0447      0.28  |Q  V     |         |         |         |
2+30       0.0466      0.28  |Q  V     |         |         |         |
2+35       0.0486      0.28  |Q  V     |         |         |         |
2+40       0.0505      0.28  |Q  V     |         |         |         |
2+45       0.0525      0.29  |Q   V    |         |         |         |
2+50       0.0546      0.30  |Q   V    |         |         |         |
2+55       0.0568      0.31  |Q   V    |         |         |         |
3+ 0       0.0589      0.31  |Q   V    |         |         |         |
3+ 5       0.0611      0.31  |Q    V   |         |         |         |
3+10       0.0633      0.32  |Q    V   |         |         |         |
3+15       0.0656      0.34  |Q    V   |         |         |         |
3+20       0.0679      0.34  |Q    V   |         |         |         |
3+25       0.0703      0.35  |Q    V   |         |         |         |
3+30       0.0729      0.37  |Q     V  |         |         |         |
3+35       0.0756      0.40  |Q     V  |         |         |         |
3+40       0.0785      0.42  |Q     V  |         |         |         |
3+45       0.0815      0.44  |Q      V |         |         |         |
3+50       0.0847      0.46  |Q      V |         |         |         |
3+55       0.0879      0.47  |Q      V |         |         |         |
4+ 0       0.0913      0.49  |Q      V |         |         |         |
4+ 5       0.0947      0.50  | Q      V|         |         |         |
4+10       0.0983      0.53  | Q      V|         |         |         |
4+15       0.1021      0.55  | Q       V         |         |         |
4+20       0.1062      0.58  | Q       V         |         |         |
4+25       0.1104      0.61  | Q       V         |         |         |
4+30       0.1148      0.64  | Q       |V        |         |         |
4+35       0.1193      0.65  | Q       |V        |         |         |
4+40       0.1240      0.68  | Q       | V       |         |         |
4+45       0.1289      0.71  | Q       | V       |         |         |
4+50       0.1339      0.73  | Q       |  V      |         |         |
4+55       0.1391      0.75  |  Q      |  V      |         |         |
5+ 0       0.1446      0.79  |  Q      |   V     |         |         |
5+ 5       0.1524      1.14  |   Q     |   V     |         |         |
5+10       0.1675      2.20  |       Q |     V   |         |         |
5+15       0.1909      3.39  |         |  Q    V |         |         |
5+20       0.2212      4.39  |         |     Q   |V        |         |
5+25       0.2588      5.47  |         |         |Q   V    |         |
5+30       0.3075      7.07  |         |         |       Q V         |
5+35       0.3565      7.11  |         |         |       Q |    V    |
5+40       0.3776      3.06  |         | Q       |         |     V   |
5+45       0.3889      1.64  |     Q   |         |         |      V  |
5+50       0.3960      1.03  |   Q     |         |         |      V  |
5+55       0.4007      0.68  | Q       |         |         |       V |
6+ 0       0.4037      0.43  |Q        |         |         |       V |
6+ 5       0.4054      0.26  |Q        |         |         |       V |
6+10       0.4063      0.12  Q         |         |         |       V |
```

```
    6+15       0.4064      0.02  Q        |         |         |        V|
    6+20       0.4065      0.01  Q        |         |         |        V|
    6+25       0.4066      0.01  Q        |         |         |        V|
    6+30       0.4066      0.00  Q        |         |         |        V|
    6+35       0.4066      0.00  Q        |         |         |        V|
    6+40       0.4066      0.00  Q        |         |         |        V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD245.out

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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

----------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

----------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
5-YEAR STORM
BY: JTS  DATE: 02-28-23
----------------------------------------------------------------------
Drainage Area =  14.27(Ac.)  =  0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =  14.27(Ac.)  =  0.022 Sq. Mi.
Length along longest watercourse =  1464.00(Ft.)
Length along longest watercourse measured to centroid =  865.00(Ft.)
Length along longest watercourse =  0.277 Mi.
Length along longest watercourse measured to centroid =  0.164 Mi.
Difference in elevation =  39.00(Ft.)
Slope along watercourse =  140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =  0.087 Hr.
Lag time =  5.21 Min.
25% of lag time =  1.30 Min.
40% of lag time =  2.09 Min.
Unit time =  5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =  0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.65 | 37.82 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 6.95 | 99.18 |

STORM EVENT (YEAR) =  5.00
Area Averaged 2-Year Rainfall =  2.650(In)
Area Averaged 100-Year Rainfall =  6.950(In)

Point rain (area averaged) =  3.657(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =  3.657(In)

Sub-Area Data:
Area(Ac.)  Runoff Index  Impervious %

```
   14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  56.4      0.507     0.000        0.507       1.000      0.507
                                                 Sum (F) =   0.507
Area averaged mean soil loss (F) (In/Hr) =  0.507
Minimum soil loss rate ((In/Hr)) =  0.253
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
--------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
--------------------------------------------------------------------------
               Unit Hydrograph Data
--------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
--------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
--------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)        Max    |   Low        (In/Hr)
   1   0.08     0.07      0.029       (  0.898)       0.026        0.003
   2   0.17     0.07      0.029       (  0.895)       0.026        0.003
   3   0.25     0.07      0.029       (  0.891)       0.026        0.003
   4   0.33     0.10      0.044       (  0.888)       0.039        0.004
   5   0.42     0.10      0.044       (  0.884)       0.039        0.004
   6   0.50     0.10      0.044       (  0.881)       0.039        0.004
   7   0.58     0.10      0.044       (  0.878)       0.039        0.004
   8   0.67     0.10      0.044       (  0.874)       0.039        0.004
   9   0.75     0.10      0.044       (  0.871)       0.039        0.004
  10   0.83     0.13      0.059       (  0.867)       0.053        0.006
  11   0.92     0.13      0.059       (  0.864)       0.053        0.006
  12   1.00     0.13      0.059       (  0.860)       0.053        0.006
  13   1.08     0.10      0.044       (  0.857)       0.039        0.004
  14   1.17     0.10      0.044       (  0.854)       0.039        0.004
  15   1.25     0.10      0.044       (  0.850)       0.039        0.004
  16   1.33     0.10      0.044       (  0.847)       0.039        0.004
  17   1.42     0.10      0.044       (  0.844)       0.039        0.004
  18   1.50     0.10      0.044       (  0.840)       0.039        0.004
  19   1.58     0.10      0.044       (  0.837)       0.039        0.004
  20   1.67     0.10      0.044       (  0.833)       0.039        0.004
  21   1.75     0.10      0.044       (  0.830)       0.039        0.004
  22   1.83     0.13      0.059       (  0.827)       0.053        0.006
  23   1.92     0.13      0.059       (  0.823)       0.053        0.006
  24   2.00     0.13      0.059       (  0.820)       0.053        0.006
  25   2.08     0.13      0.059       (  0.817)       0.053        0.006
  26   2.17     0.13      0.059       (  0.813)       0.053        0.006
  27   2.25     0.13      0.059       (  0.810)       0.053        0.006
  28   2.33     0.13      0.059       (  0.807)       0.053        0.006
  29   2.42     0.13      0.059       (  0.804)       0.053        0.006
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 30 | 2.50 | 0.13 | 0.059 | ( 0.800) | 0.053 | 0.006 |
| 31 | 2.58 | 0.17 | 0.073 | ( 0.797) | 0.066 | 0.007 |
| 32 | 2.67 | 0.17 | 0.073 | ( 0.794) | 0.066 | 0.007 |
| 33 | 2.75 | 0.17 | 0.073 | ( 0.790) | 0.066 | 0.007 |
| 34 | 2.83 | 0.17 | 0.073 | ( 0.787) | 0.066 | 0.007 |
| 35 | 2.92 | 0.17 | 0.073 | ( 0.784) | 0.066 | 0.007 |
| 36 | 3.00 | 0.17 | 0.073 | ( 0.781) | 0.066 | 0.007 |
| 37 | 3.08 | 0.17 | 0.073 | ( 0.777) | 0.066 | 0.007 |
| 38 | 3.17 | 0.17 | 0.073 | ( 0.774) | 0.066 | 0.007 |
| 39 | 3.25 | 0.17 | 0.073 | ( 0.771) | 0.066 | 0.007 |
| 40 | 3.33 | 0.17 | 0.073 | ( 0.768) | 0.066 | 0.007 |
| 41 | 3.42 | 0.17 | 0.073 | ( 0.765) | 0.066 | 0.007 |
| 42 | 3.50 | 0.17 | 0.073 | ( 0.761) | 0.066 | 0.007 |
| 43 | 3.58 | 0.17 | 0.073 | ( 0.758) | 0.066 | 0.007 |
| 44 | 3.67 | 0.17 | 0.073 | ( 0.755) | 0.066 | 0.007 |
| 45 | 3.75 | 0.17 | 0.073 | ( 0.752) | 0.066 | 0.007 |
| 46 | 3.83 | 0.20 | 0.088 | ( 0.749) | 0.079 | 0.009 |
| 47 | 3.92 | 0.20 | 0.088 | ( 0.746) | 0.079 | 0.009 |
| 48 | 4.00 | 0.20 | 0.088 | ( 0.742) | 0.079 | 0.009 |
| 49 | 4.08 | 0.20 | 0.088 | ( 0.739) | 0.079 | 0.009 |
| 50 | 4.17 | 0.20 | 0.088 | ( 0.736) | 0.079 | 0.009 |
| 51 | 4.25 | 0.20 | 0.088 | ( 0.733) | 0.079 | 0.009 |
| 52 | 4.33 | 0.23 | 0.102 | ( 0.730) | 0.092 | 0.010 |
| 53 | 4.42 | 0.23 | 0.102 | ( 0.727) | 0.092 | 0.010 |
| 54 | 4.50 | 0.23 | 0.102 | ( 0.724) | 0.092 | 0.010 |
| 55 | 4.58 | 0.23 | 0.102 | ( 0.721) | 0.092 | 0.010 |
| 56 | 4.67 | 0.23 | 0.102 | ( 0.717) | 0.092 | 0.010 |
| 57 | 4.75 | 0.23 | 0.102 | ( 0.714) | 0.092 | 0.010 |
| 58 | 4.83 | 0.27 | 0.117 | ( 0.711) | 0.105 | 0.012 |
| 59 | 4.92 | 0.27 | 0.117 | ( 0.708) | 0.105 | 0.012 |
| 60 | 5.00 | 0.27 | 0.117 | ( 0.705) | 0.105 | 0.012 |
| 61 | 5.08 | 0.20 | 0.088 | ( 0.702) | 0.079 | 0.009 |
| 62 | 5.17 | 0.20 | 0.088 | ( 0.699) | 0.079 | 0.009 |
| 63 | 5.25 | 0.20 | 0.088 | ( 0.696) | 0.079 | 0.009 |
| 64 | 5.33 | 0.23 | 0.102 | ( 0.693) | 0.092 | 0.010 |
| 65 | 5.42 | 0.23 | 0.102 | ( 0.690) | 0.092 | 0.010 |
| 66 | 5.50 | 0.23 | 0.102 | ( 0.687) | 0.092 | 0.010 |
| 67 | 5.58 | 0.27 | 0.117 | ( 0.684) | 0.105 | 0.012 |
| 68 | 5.67 | 0.27 | 0.117 | ( 0.681) | 0.105 | 0.012 |
| 69 | 5.75 | 0.27 | 0.117 | ( 0.678) | 0.105 | 0.012 |
| 70 | 5.83 | 0.27 | 0.117 | ( 0.675) | 0.105 | 0.012 |
| 71 | 5.92 | 0.27 | 0.117 | ( 0.672) | 0.105 | 0.012 |
| 72 | 6.00 | 0.27 | 0.117 | ( 0.669) | 0.105 | 0.012 |
| 73 | 6.08 | 0.30 | 0.132 | ( 0.666) | 0.118 | 0.013 |
| 74 | 6.17 | 0.30 | 0.132 | ( 0.663) | 0.118 | 0.013 |
| 75 | 6.25 | 0.30 | 0.132 | ( 0.660) | 0.118 | 0.013 |
| 76 | 6.33 | 0.30 | 0.132 | ( 0.657) | 0.118 | 0.013 |
| 77 | 6.42 | 0.30 | 0.132 | ( 0.654) | 0.118 | 0.013 |
| 78 | 6.50 | 0.30 | 0.132 | ( 0.651) | 0.118 | 0.013 |
| 79 | 6.58 | 0.33 | 0.146 | ( 0.648) | 0.132 | 0.015 |
| 80 | 6.67 | 0.33 | 0.146 | ( 0.645) | 0.132 | 0.015 |
| 81 | 6.75 | 0.33 | 0.146 | ( 0.642) | 0.132 | 0.015 |
| 82 | 6.83 | 0.33 | 0.146 | ( 0.639) | 0.132 | 0.015 |
| 83 | 6.92 | 0.33 | 0.146 | ( 0.637) | 0.132 | 0.015 |
| 84 | 7.00 | 0.33 | 0.146 | ( 0.634) | 0.132 | 0.015 |
| 85 | 7.08 | 0.33 | 0.146 | ( 0.631) | 0.132 | 0.015 |
| 86 | 7.17 | 0.33 | 0.146 | ( 0.628) | 0.132 | 0.015 |
| 87 | 7.25 | 0.33 | 0.146 | ( 0.625) | 0.132 | 0.015 |
| 88 | 7.33 | 0.37 | 0.161 | ( 0.622) | 0.145 | 0.016 |
| 89 | 7.42 | 0.37 | 0.161 | ( 0.619) | 0.145 | 0.016 |
| 90 | 7.50 | 0.37 | 0.161 | ( 0.617) | 0.145 | 0.016 |
| 91 | 7.58 | 0.40 | 0.176 | ( 0.614) | 0.158 | 0.018 |
| 92 | 7.67 | 0.40 | 0.176 | ( 0.611) | 0.158 | 0.018 |
| 93 | 7.75 | 0.40 | 0.176 | ( 0.608) | 0.158 | 0.018 |
| 94 | 7.83 | 0.43 | 0.190 | ( 0.605) | 0.171 | 0.019 |
| 95 | 7.92 | 0.43 | 0.190 | ( 0.602) | 0.171 | 0.019 |
| 96 | 8.00 | 0.43 | 0.190 | ( 0.600) | 0.171 | 0.019 |
| 97 | 8.08 | 0.50 | 0.219 | ( 0.597) | 0.197 | 0.022 |
| 98 | 8.17 | 0.50 | 0.219 | ( 0.594) | 0.197 | 0.022 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 99 | 8.25 | 0.50 | 0.219 | ( | 0.591) | | 0.197 | | 0.022 |
| 100 | 8.33 | 0.50 | 0.219 | ( | 0.589) | | 0.197 | | 0.022 |
| 101 | 8.42 | 0.50 | 0.219 | ( | 0.586) | | 0.197 | | 0.022 |
| 102 | 8.50 | 0.50 | 0.219 | ( | 0.583) | | 0.197 | | 0.022 |
| 103 | 8.58 | 0.53 | 0.234 | ( | 0.580) | | 0.211 | | 0.023 |
| 104 | 8.67 | 0.53 | 0.234 | ( | 0.578) | | 0.211 | | 0.023 |
| 105 | 8.75 | 0.53 | 0.234 | ( | 0.575) | | 0.211 | | 0.023 |
| 106 | 8.83 | 0.57 | 0.249 | ( | 0.572) | | 0.224 | | 0.025 |
| 107 | 8.92 | 0.57 | 0.249 | ( | 0.569) | | 0.224 | | 0.025 |
| 108 | 9.00 | 0.57 | 0.249 | ( | 0.567) | | 0.224 | | 0.025 |
| 109 | 9.08 | 0.63 | 0.278 | ( | 0.564) | | 0.250 | | 0.028 |
| 110 | 9.17 | 0.63 | 0.278 | ( | 0.561) | | 0.250 | | 0.028 |
| 111 | 9.25 | 0.63 | 0.278 | ( | 0.559) | | 0.250 | | 0.028 |
| 112 | 9.33 | 0.67 | 0.293 | ( | 0.556) | | 0.263 | | 0.029 |
| 113 | 9.42 | 0.67 | 0.293 | ( | 0.553) | | 0.263 | | 0.029 |
| 114 | 9.50 | 0.67 | 0.293 | ( | 0.551) | | 0.263 | | 0.029 |
| 115 | 9.58 | 0.70 | 0.307 | ( | 0.548) | | 0.276 | | 0.031 |
| 116 | 9.67 | 0.70 | 0.307 | ( | 0.546) | | 0.276 | | 0.031 |
| 117 | 9.75 | 0.70 | 0.307 | ( | 0.543) | | 0.276 | | 0.031 |
| 118 | 9.83 | 0.73 | 0.322 | ( | 0.540) | | 0.290 | | 0.032 |
| 119 | 9.92 | 0.73 | 0.322 | ( | 0.538) | | 0.290 | | 0.032 |
| 120 | 10.00 | 0.73 | 0.322 | ( | 0.535) | | 0.290 | | 0.032 |
| 121 | 10.08 | 0.50 | 0.219 | ( | 0.533) | | 0.197 | | 0.022 |
| 122 | 10.17 | 0.50 | 0.219 | ( | 0.530) | | 0.197 | | 0.022 |
| 123 | 10.25 | 0.50 | 0.219 | ( | 0.527) | | 0.197 | | 0.022 |
| 124 | 10.33 | 0.50 | 0.219 | ( | 0.525) | | 0.197 | | 0.022 |
| 125 | 10.42 | 0.50 | 0.219 | ( | 0.522) | | 0.197 | | 0.022 |
| 126 | 10.50 | 0.50 | 0.219 | ( | 0.520) | | 0.197 | | 0.022 |
| 127 | 10.58 | 0.67 | 0.293 | ( | 0.517) | | 0.263 | | 0.029 |
| 128 | 10.67 | 0.67 | 0.293 | ( | 0.515) | | 0.263 | | 0.029 |
| 129 | 10.75 | 0.67 | 0.293 | ( | 0.512) | | 0.263 | | 0.029 |
| 130 | 10.83 | 0.67 | 0.293 | ( | 0.510) | | 0.263 | | 0.029 |
| 131 | 10.92 | 0.67 | 0.293 | ( | 0.507) | | 0.263 | | 0.029 |
| 132 | 11.00 | 0.67 | 0.293 | ( | 0.505) | | 0.263 | | 0.029 |
| 133 | 11.08 | 0.63 | 0.278 | ( | 0.502) | | 0.250 | | 0.028 |
| 134 | 11.17 | 0.63 | 0.278 | ( | 0.500) | | 0.250 | | 0.028 |
| 135 | 11.25 | 0.63 | 0.278 | ( | 0.497) | | 0.250 | | 0.028 |
| 136 | 11.33 | 0.63 | 0.278 | ( | 0.495) | | 0.250 | | 0.028 |
| 137 | 11.42 | 0.63 | 0.278 | ( | 0.492) | | 0.250 | | 0.028 |
| 138 | 11.50 | 0.63 | 0.278 | ( | 0.490) | | 0.250 | | 0.028 |
| 139 | 11.58 | 0.57 | 0.249 | ( | 0.487) | | 0.224 | | 0.025 |
| 140 | 11.67 | 0.57 | 0.249 | ( | 0.485) | | 0.224 | | 0.025 |
| 141 | 11.75 | 0.57 | 0.249 | ( | 0.483) | | 0.224 | | 0.025 |
| 142 | 11.83 | 0.60 | 0.263 | ( | 0.480) | | 0.237 | | 0.026 |
| 143 | 11.92 | 0.60 | 0.263 | ( | 0.478) | | 0.237 | | 0.026 |
| 144 | 12.00 | 0.60 | 0.263 | ( | 0.475) | | 0.237 | | 0.026 |
| 145 | 12.08 | 0.83 | 0.366 | ( | 0.473) | | 0.329 | | 0.037 |
| 146 | 12.17 | 0.83 | 0.366 | ( | 0.471) | | 0.329 | | 0.037 |
| 147 | 12.25 | 0.83 | 0.366 | ( | 0.468) | | 0.329 | | 0.037 |
| 148 | 12.33 | 0.87 | 0.380 | ( | 0.466) | | 0.342 | | 0.038 |
| 149 | 12.42 | 0.87 | 0.380 | ( | 0.464) | | 0.342 | | 0.038 |
| 150 | 12.50 | 0.87 | 0.380 | ( | 0.461) | | 0.342 | | 0.038 |
| 151 | 12.58 | 0.93 | 0.410 | ( | 0.459) | | 0.369 | | 0.041 |
| 152 | 12.67 | 0.93 | 0.410 | ( | 0.457) | | 0.369 | | 0.041 |
| 153 | 12.75 | 0.93 | 0.410 | ( | 0.454) | | 0.369 | | 0.041 |
| 154 | 12.83 | 0.97 | 0.424 | ( | 0.452) | | 0.382 | | 0.042 |
| 155 | 12.92 | 0.97 | 0.424 | ( | 0.450) | | 0.382 | | 0.042 |
| 156 | 13.00 | 0.97 | 0.424 | ( | 0.447) | | 0.382 | | 0.042 |
| 157 | 13.08 | 1.13 | 0.497 | | 0.445 | ( | 0.448) | | 0.052 |
| 158 | 13.17 | 1.13 | 0.497 | | 0.443 | ( | 0.448) | | 0.054 |
| 159 | 13.25 | 1.13 | 0.497 | | 0.441 | ( | 0.448) | | 0.057 |
| 160 | 13.33 | 1.13 | 0.497 | | 0.438 | ( | 0.448) | | 0.059 |
| 161 | 13.42 | 1.13 | 0.497 | | 0.436 | ( | 0.448) | | 0.061 |
| 162 | 13.50 | 1.13 | 0.497 | | 0.434 | ( | 0.448) | | 0.063 |
| 163 | 13.58 | 0.77 | 0.336 | ( | 0.432) | | 0.303 | | 0.034 |
| 164 | 13.67 | 0.77 | 0.336 | ( | 0.430) | | 0.303 | | 0.034 |
| 165 | 13.75 | 0.77 | 0.336 | ( | 0.427) | | 0.303 | | 0.034 |
| 166 | 13.83 | 0.77 | 0.336 | ( | 0.425) | | 0.303 | | 0.034 |
| 167 | 13.92 | 0.77 | 0.336 | ( | 0.423) | | 0.303 | | 0.034 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 168 | 14.00 | 0.77 | 0.336 | ( | 0.421) | 0.303 | 0.034 |
| 169 | 14.08 | 0.90 | 0.395 | ( | 0.419) | 0.355 | 0.039 |
| 170 | 14.17 | 0.90 | 0.395 | ( | 0.417) | 0.355 | 0.039 |
| 171 | 14.25 | 0.90 | 0.395 | ( | 0.414) | 0.355 | 0.039 |
| 172 | 14.33 | 0.87 | 0.380 | ( | 0.412) | 0.342 | 0.038 |
| 173 | 14.42 | 0.87 | 0.380 | ( | 0.410) | 0.342 | 0.038 |
| 174 | 14.50 | 0.87 | 0.380 | ( | 0.408) | 0.342 | 0.038 |
| 175 | 14.58 | 0.87 | 0.380 | ( | 0.406) | 0.342 | 0.038 |
| 176 | 14.67 | 0.87 | 0.380 | ( | 0.404) | 0.342 | 0.038 |
| 177 | 14.75 | 0.87 | 0.380 | ( | 0.402) | 0.342 | 0.038 |
| 178 | 14.83 | 0.83 | 0.366 | ( | 0.400) | 0.329 | 0.037 |
| 179 | 14.92 | 0.83 | 0.366 | ( | 0.398) | 0.329 | 0.037 |
| 180 | 15.00 | 0.83 | 0.366 | ( | 0.396) | 0.329 | 0.037 |
| 181 | 15.08 | 0.80 | 0.351 | ( | 0.394) | 0.316 | 0.035 |
| 182 | 15.17 | 0.80 | 0.351 | ( | 0.392) | 0.316 | 0.035 |
| 183 | 15.25 | 0.80 | 0.351 | ( | 0.390) | 0.316 | 0.035 |
| 184 | 15.33 | 0.77 | 0.336 | ( | 0.388) | 0.303 | 0.034 |
| 185 | 15.42 | 0.77 | 0.336 | ( | 0.386) | 0.303 | 0.034 |
| 186 | 15.50 | 0.77 | 0.336 | ( | 0.384) | 0.303 | 0.034 |
| 187 | 15.58 | 0.63 | 0.278 | ( | 0.382) | 0.250 | 0.028 |
| 188 | 15.67 | 0.63 | 0.278 | ( | 0.380) | 0.250 | 0.028 |
| 189 | 15.75 | 0.63 | 0.278 | ( | 0.378) | 0.250 | 0.028 |
| 190 | 15.83 | 0.63 | 0.278 | ( | 0.376) | 0.250 | 0.028 |
| 191 | 15.92 | 0.63 | 0.278 | ( | 0.374) | 0.250 | 0.028 |
| 192 | 16.00 | 0.63 | 0.278 | ( | 0.372) | 0.250 | 0.028 |
| 193 | 16.08 | 0.13 | 0.059 | ( | 0.370) | 0.053 | 0.006 |
| 194 | 16.17 | 0.13 | 0.059 | ( | 0.368) | 0.053 | 0.006 |
| 195 | 16.25 | 0.13 | 0.059 | ( | 0.366) | 0.053 | 0.006 |
| 196 | 16.33 | 0.13 | 0.059 | ( | 0.365) | 0.053 | 0.006 |
| 197 | 16.42 | 0.13 | 0.059 | ( | 0.363) | 0.053 | 0.006 |
| 198 | 16.50 | 0.13 | 0.059 | ( | 0.361) | 0.053 | 0.006 |
| 199 | 16.58 | 0.10 | 0.044 | ( | 0.359) | 0.039 | 0.004 |
| 200 | 16.67 | 0.10 | 0.044 | ( | 0.357) | 0.039 | 0.004 |
| 201 | 16.75 | 0.10 | 0.044 | ( | 0.355) | 0.039 | 0.004 |
| 202 | 16.83 | 0.10 | 0.044 | ( | 0.354) | 0.039 | 0.004 |
| 203 | 16.92 | 0.10 | 0.044 | ( | 0.352) | 0.039 | 0.004 |
| 204 | 17.00 | 0.10 | 0.044 | ( | 0.350) | 0.039 | 0.004 |
| 205 | 17.08 | 0.17 | 0.073 | ( | 0.348) | 0.066 | 0.007 |
| 206 | 17.17 | 0.17 | 0.073 | ( | 0.346) | 0.066 | 0.007 |
| 207 | 17.25 | 0.17 | 0.073 | ( | 0.345) | 0.066 | 0.007 |
| 208 | 17.33 | 0.17 | 0.073 | ( | 0.343) | 0.066 | 0.007 |
| 209 | 17.42 | 0.17 | 0.073 | ( | 0.341) | 0.066 | 0.007 |
| 210 | 17.50 | 0.17 | 0.073 | ( | 0.340) | 0.066 | 0.007 |
| 211 | 17.58 | 0.17 | 0.073 | ( | 0.338) | 0.066 | 0.007 |
| 212 | 17.67 | 0.17 | 0.073 | ( | 0.336) | 0.066 | 0.007 |
| 213 | 17.75 | 0.17 | 0.073 | ( | 0.335) | 0.066 | 0.007 |
| 214 | 17.83 | 0.13 | 0.059 | ( | 0.333) | 0.053 | 0.006 |
| 215 | 17.92 | 0.13 | 0.059 | ( | 0.331) | 0.053 | 0.006 |
| 216 | 18.00 | 0.13 | 0.059 | ( | 0.330) | 0.053 | 0.006 |
| 217 | 18.08 | 0.13 | 0.059 | ( | 0.328) | 0.053 | 0.006 |
| 218 | 18.17 | 0.13 | 0.059 | ( | 0.326) | 0.053 | 0.006 |
| 219 | 18.25 | 0.13 | 0.059 | ( | 0.325) | 0.053 | 0.006 |
| 220 | 18.33 | 0.13 | 0.059 | ( | 0.323) | 0.053 | 0.006 |
| 221 | 18.42 | 0.13 | 0.059 | ( | 0.322) | 0.053 | 0.006 |
| 222 | 18.50 | 0.13 | 0.059 | ( | 0.320) | 0.053 | 0.006 |
| 223 | 18.58 | 0.10 | 0.044 | ( | 0.318) | 0.039 | 0.004 |
| 224 | 18.67 | 0.10 | 0.044 | ( | 0.317) | 0.039 | 0.004 |
| 225 | 18.75 | 0.10 | 0.044 | ( | 0.315) | 0.039 | 0.004 |
| 226 | 18.83 | 0.07 | 0.029 | ( | 0.314) | 0.026 | 0.003 |
| 227 | 18.92 | 0.07 | 0.029 | ( | 0.312) | 0.026 | 0.003 |
| 228 | 19.00 | 0.07 | 0.029 | ( | 0.311) | 0.026 | 0.003 |
| 229 | 19.08 | 0.10 | 0.044 | ( | 0.309) | 0.039 | 0.004 |
| 230 | 19.17 | 0.10 | 0.044 | ( | 0.308) | 0.039 | 0.004 |
| 231 | 19.25 | 0.10 | 0.044 | ( | 0.307) | 0.039 | 0.004 |
| 232 | 19.33 | 0.13 | 0.059 | ( | 0.305) | 0.053 | 0.006 |
| 233 | 19.42 | 0.13 | 0.059 | ( | 0.304) | 0.053 | 0.006 |
| 234 | 19.50 | 0.13 | 0.059 | ( | 0.302) | 0.053 | 0.006 |
| 235 | 19.58 | 0.10 | 0.044 | ( | 0.301) | 0.039 | 0.004 |
| 236 | 19.67 | 0.10 | 0.044 | ( | 0.300) | 0.039 | 0.004 |

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237  19.75     0.10      0.044       (  0.298)       0.039        0.004
238  19.83     0.07      0.029       (  0.297)       0.026        0.003
239  19.92     0.07      0.029       (  0.296)       0.026        0.003
240  20.00     0.07      0.029       (  0.294)       0.026        0.003
241  20.08     0.10      0.044       (  0.293)       0.039        0.004
242  20.17     0.10      0.044       (  0.292)       0.039        0.004
243  20.25     0.10      0.044       (  0.290)       0.039        0.004
244  20.33     0.10      0.044       (  0.289)       0.039        0.004
245  20.42     0.10      0.044       (  0.288)       0.039        0.004
246  20.50     0.10      0.044       (  0.287)       0.039        0.004
247  20.58     0.10      0.044       (  0.285)       0.039        0.004
248  20.67     0.10      0.044       (  0.284)       0.039        0.004
249  20.75     0.10      0.044       (  0.283)       0.039        0.004
250  20.83     0.07      0.029       (  0.282)       0.026        0.003
251  20.92     0.07      0.029       (  0.281)       0.026        0.003
252  21.00     0.07      0.029       (  0.280)       0.026        0.003
253  21.08     0.10      0.044       (  0.279)       0.039        0.004
254  21.17     0.10      0.044       (  0.277)       0.039        0.004
255  21.25     0.10      0.044       (  0.276)       0.039        0.004
256  21.33     0.07      0.029       (  0.275)       0.026        0.003
257  21.42     0.07      0.029       (  0.274)       0.026        0.003
258  21.50     0.07      0.029       (  0.273)       0.026        0.003
259  21.58     0.10      0.044       (  0.272)       0.039        0.004
260  21.67     0.10      0.044       (  0.271)       0.039        0.004
261  21.75     0.10      0.044       (  0.270)       0.039        0.004
262  21.83     0.07      0.029       (  0.269)       0.026        0.003
263  21.92     0.07      0.029       (  0.268)       0.026        0.003
264  22.00     0.07      0.029       (  0.268)       0.026        0.003
265  22.08     0.10      0.044       (  0.267)       0.039        0.004
266  22.17     0.10      0.044       (  0.266)       0.039        0.004
267  22.25     0.10      0.044       (  0.265)       0.039        0.004
268  22.33     0.07      0.029       (  0.264)       0.026        0.003
269  22.42     0.07      0.029       (  0.263)       0.026        0.003
270  22.50     0.07      0.029       (  0.263)       0.026        0.003
271  22.58     0.07      0.029       (  0.262)       0.026        0.003
272  22.67     0.07      0.029       (  0.261)       0.026        0.003
273  22.75     0.07      0.029       (  0.260)       0.026        0.003
274  22.83     0.07      0.029       (  0.260)       0.026        0.003
275  22.92     0.07      0.029       (  0.259)       0.026        0.003
276  23.00     0.07      0.029       (  0.258)       0.026        0.003
277  23.08     0.07      0.029       (  0.258)       0.026        0.003
278  23.17     0.07      0.029       (  0.257)       0.026        0.003
279  23.25     0.07      0.029       (  0.257)       0.026        0.003
280  23.33     0.07      0.029       (  0.256)       0.026        0.003
281  23.42     0.07      0.029       (  0.256)       0.026        0.003
282  23.50     0.07      0.029       (  0.255)       0.026        0.003
283  23.58     0.07      0.029       (  0.255)       0.026        0.003
284  23.67     0.07      0.029       (  0.254)       0.026        0.003
285  23.75     0.07      0.029       (  0.254)       0.026        0.003
286  23.83     0.07      0.029       (  0.254)       0.026        0.003
287  23.92     0.07      0.029       (  0.254)       0.026        0.003
288  24.00     0.07      0.029       (  0.253)       0.026        0.003
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     4.4
       Flood volume = Effective rainfall      0.37(In)
        times area      14.3(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
       Total soil loss =      3.29(In)
       Total soil loss =     3.909(Ac.Ft)
       Total rainfall =      3.66(In)
       Flood volume =       19151.6 Cubic Feet
       Total soil loss =      170284.6 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      0.858(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                       R u n o f f     H y d r o g r a p h
       ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))
```

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0002 | 0.03 | Q | | | | |
| 0+15 | 0.0005 | 0.03 | Q | | | | |
| 0+20 | 0.0008 | 0.04 | Q | | | | |
| 0+25 | 0.0011 | 0.05 | Q | | | | |
| 0+30 | 0.0015 | 0.06 | Q | | | | |
| 0+35 | 0.0019 | 0.06 | Q | | | | |
| 0+40 | 0.0024 | 0.06 | Q | | | | |
| 0+45 | 0.0028 | 0.06 | Q | | | | |
| 0+50 | 0.0033 | 0.07 | Q | | | | |
| 0+55 | 0.0038 | 0.08 | Q | | | | |
| 1+ 0 | 0.0043 | 0.08 | Q | | | | |
| 1+ 5 | 0.0049 | 0.08 | Q | | | | |
| 1+10 | 0.0054 | 0.07 | Q | | | | |
| 1+15 | 0.0058 | 0.07 | Q | | | | |
| 1+20 | 0.0063 | 0.06 | Q | | | | |
| 1+25 | 0.0067 | 0.06 | Q | | | | |
| 1+30 | 0.0071 | 0.06 | Q | | | | |
| 1+35 | 0.0076 | 0.06 | Q | | | | |
| 1+40 | 0.0080 | 0.06 | Q | | | | |
| 1+45 | 0.0085 | 0.06 | Q | | | | |
| 1+50 | 0.0089 | 0.07 | Q | | | | |
| 1+55 | 0.0094 | 0.08 | Q | | | | |
| 2+ 0 | 0.0100 | 0.08 | Q | | | | |
| 2+ 5 | 0.0106 | 0.08 | Q | | | | |
| 2+10 | 0.0111 | 0.08 | QV | | | | |
| 2+15 | 0.0117 | 0.08 | QV | | | | |
| 2+20 | 0.0123 | 0.08 | QV | | | | |
| 2+25 | 0.0129 | 0.08 | QV | | | | |
| 2+30 | 0.0134 | 0.08 | QV | | | | |
| 2+35 | 0.0140 | 0.09 | QV | | | | |
| 2+40 | 0.0147 | 0.10 | QV | | | | |
| 2+45 | 0.0154 | 0.10 | QV | | | | |
| 2+50 | 0.0161 | 0.10 | QV | | | | |
| 2+55 | 0.0168 | 0.10 | QV | | | | |
| 3+ 0 | 0.0176 | 0.10 | QV | | | | |
| 3+ 5 | 0.0183 | 0.10 | QV | | | | |
| 3+10 | 0.0190 | 0.11 | QV | | | | |
| 3+15 | 0.0197 | 0.11 | QV | | | | |
| 3+20 | 0.0205 | 0.11 | QV | | | | |
| 3+25 | 0.0212 | 0.11 | QV | | | | |
| 3+30 | 0.0219 | 0.11 | QV | | | | |
| 3+35 | 0.0226 | 0.11 | Q V | | | | |
| 3+40 | 0.0234 | 0.11 | Q V | | | | |
| 3+45 | 0.0241 | 0.11 | Q V | | | | |
| 3+50 | 0.0248 | 0.11 | Q V | | | | |
| 3+55 | 0.0257 | 0.12 | Q V | | | | |
| 4+ 0 | 0.0265 | 0.12 | Q V | | | | |
| 4+ 5 | 0.0274 | 0.12 | Q V | | | | |
| 4+10 | 0.0282 | 0.12 | Q V | | | | |
| 4+15 | 0.0291 | 0.13 | Q V | | | | |
| 4+20 | 0.0300 | 0.13 | Q V | | | | |
| 4+25 | 0.0309 | 0.14 | Q V | | | | |
| 4+30 | 0.0319 | 0.14 | Q V | | | | |
| 4+35 | 0.0329 | 0.15 | Q V | | | | |
| 4+40 | 0.0339 | 0.15 | Q V | | | | |
| 4+45 | 0.0349 | 0.15 | Q V | | | | |
| 4+50 | 0.0360 | 0.15 | Q V | | | | |
| 4+55 | 0.0371 | 0.16 | Q V | | | | |
| 5+ 0 | 0.0382 | 0.16 | Q V | | | | |
| 5+ 5 | 0.0393 | 0.16 | Q V | | | | |
| 5+10 | 0.0403 | 0.14 | Q V | | | | |
| 5+15 | 0.0412 | 0.13 | Q V | | | | |
| 5+20 | 0.0421 | 0.13 | Q V | | | | |
| 5+25 | 0.0431 | 0.14 | Q V | | | | |

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 5+30      0.0441      0.15  Q   V     |         |         |         |
 5+35      0.0451      0.15  Q   V     |         |         |         |
 5+40      0.0462      0.16  Q   V     |         |         |         |
 5+45      0.0474      0.16  Q   V     |         |         |         |
 5+50      0.0485      0.17  Q   V     |         |         |         |
 5+55      0.0497      0.17  Q   V     |         |         |         |
 6+ 0      0.0508      0.17  Q   V     |         |         |         |
 6+ 5      0.0520      0.17  Q   V     |         |         |         |
 6+10      0.0532      0.18  Q   V     |         |         |         |
 6+15      0.0545      0.19  Q   V     |         |         |         |
 6+20      0.0558      0.19  Q    V    |         |         |         |
 6+25      0.0571      0.19  Q    V    |         |         |         |
 6+30      0.0584      0.19  Q    V    |         |         |         |
 6+35      0.0597      0.19  Q    V    |         |         |         |
 6+40      0.0611      0.20  Q    V    |         |         |         |
 6+45      0.0626      0.21  Q    V    |         |         |         |
 6+50      0.0640      0.21  Q    V    |         |         |         |
 6+55      0.0654      0.21  Q    V    |         |         |         |
 7+ 0      0.0669      0.21  Q     V   |         |         |         |
 7+ 5      0.0683      0.21  Q     V   |         |         |         |
 7+10      0.0698      0.21  Q     V   |         |         |         |
 7+15      0.0712      0.21  Q     V   |         |         |         |
 7+20      0.0727      0.21  Q     V   |         |         |         |
 7+25      0.0742      0.22  Q     V   |         |         |         |
 7+30      0.0758      0.23  Q     V   |         |         |         |
 7+35      0.0774      0.23  Q      V  |         |         |         |
 7+40      0.0791      0.24  Q      V  |         |         |         |
 7+45      0.0808      0.25  Q      V  |         |         |         |
 7+50      0.0826      0.25  |Q     V  |         |         |         |
 7+55      0.0844      0.26  |Q     V  |         |         |         |
 8+ 0      0.0862      0.27  |Q     V  |         |         |         |
 8+ 5      0.0881      0.28  |Q      V |         |         |         |
 8+10      0.0902      0.30  |Q      V |         |         |         |
 8+15      0.0923      0.31  |Q      V |         |         |         |
 8+20      0.0945      0.31  |Q      V |         |         |         |
 8+25      0.0966      0.31  |Q      V |         |         |         |
 8+30      0.0988      0.31  |Q      V |         |         |         |
 8+35      0.1010      0.32  |Q       V|         |         |         |
 8+40      0.1033      0.33  |Q       V|         |         |         |
 8+45      0.1055      0.33  |Q       V|         |         |         |
 8+50      0.1079      0.34  |Q       V|         |         |         |
 8+55      0.1103      0.35  |Q        V         |         |         |
 9+ 0      0.1127      0.35  |Q        V         |         |         |
 9+ 5      0.1152      0.36  |Q        V         |         |         |
 9+10      0.1179      0.38  |Q        V         |         |         |
 9+15      0.1206      0.39  |Q        V         |         |         |
 9+20      0.1233      0.40  |Q        |V        |         |         |
 9+25      0.1261      0.41  |Q        |V        |         |         |
 9+30      0.1290      0.42  |Q        |V        |         |         |
 9+35      0.1319      0.42  |Q        | V       |         |         |
 9+40      0.1349      0.43  |Q        | V       |         |         |
 9+45      0.1379      0.44  |Q        | V       |         |         |
 9+50      0.1410      0.44  |Q        | V       |         |         |
 9+55      0.1441      0.45  |Q        |  V      |         |         |
10+ 0      0.1472      0.46  |Q        |  V      |         |         |
10+ 5      0.1502      0.43  |Q        |  V      |         |         |
10+10      0.1527      0.36  |Q        |  V      |         |         |
10+15      0.1551      0.34  |Q        |   V     |         |         |
10+20      0.1574      0.33  |Q        |   V     |         |         |
10+25      0.1596      0.32  |Q        |   V     |         |         |
10+30      0.1618      0.32  |Q        |   V     |         |         |
10+35      0.1641      0.34  |Q        |   V     |         |         |
10+40      0.1668      0.39  |Q        |    V    |         |         |
10+45      0.1696      0.40  |Q        |    V    |         |         |
10+50      0.1724      0.41  |Q        |    V    |         |         |
10+55      0.1752      0.41  |Q        |    V    |         |         |
11+ 0      0.1781      0.42  |Q        |     V   |         |         |
11+ 5      0.1810      0.42  |Q        |     V   |         |         |
11+10      0.1838      0.41  |Q        |     V   |         |         |
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11+15       0.1866      0.40  |Q        |     V   |         |         |
11+20       0.1893      0.40  |Q        |      V  |         |         |
11+25       0.1921      0.40  |Q        |      V  |         |         |
11+30       0.1949      0.40  |Q        |      V  |         |         |
11+35       0.1976      0.39  |Q        |      V  |         |         |
11+40       0.2001      0.37  |Q        |       V |         |         |
11+45       0.2026      0.37  |Q        |       V |         |         |
11+50       0.2052      0.37  |Q        |       V |         |         |
11+55       0.2077      0.37  |Q        |       V |         |         |
12+ 0       0.2103      0.38  |Q        |        V|         |         |
12+ 5       0.2131      0.40  |Q        |        V|         |         |
12+10       0.2164      0.48  |Q        |        V|         |         |
12+15       0.2198      0.50  |Q        |        V|         |         |
12+20       0.2234      0.51  | Q       |         V         |         |
12+25       0.2270      0.53  | Q       |         V         |         |
12+30       0.2307      0.54  | Q       |         V         |         |
12+35       0.2345      0.55  | Q       |         |V        |         |
12+40       0.2385      0.57  | Q       |         |V        |         |
12+45       0.2425      0.58  | Q       |         | V       |         |
12+50       0.2465      0.59  | Q       |         | V       |         |
12+55       0.2506      0.60  | Q       |         | V       |         |
13+ 0       0.2548      0.61  | Q       |         |  V      |         |
13+ 5       0.2592      0.63  | Q       |         |  V      |         |
13+10       0.2640      0.71  | Q       |         |   V     |         |
13+15       0.2692      0.75  |  Q      |         |   V     |         |
13+20       0.2746      0.79  |  Q      |         |   V     |         |
13+25       0.2803      0.82  |  Q      |         |    V    |         |
13+30       0.2862      0.86  |  Q      |         |     V   |         |
13+35       0.2918      0.81  |  Q      |         |     V   |         |
13+40       0.2960      0.62  | Q       |         |     V   |         |
13+45       0.2999      0.55  | Q       |         |      V  |         |
13+50       0.3035      0.52  | Q       |         |      V  |         |
13+55       0.3070      0.51  | Q       |         |      V  |         |
14+ 0       0.3104      0.50  |Q        |         |       V |         |
14+ 5       0.3139      0.51  | Q       |         |       V |         |
14+10       0.3176      0.54  | Q       |         |       V |         |
14+15       0.3215      0.55  | Q       |         |        V|         |
14+20       0.3253      0.56  | Q       |         |        V|         |
14+25       0.3291      0.55  | Q       |         |        V|         |
14+30       0.3328      0.55  | Q       |         |         V         |
14+35       0.3366      0.55  | Q       |         |         V         |
14+40       0.3404      0.55  | Q       |         |         V         |
14+45       0.3442      0.55  | Q       |         |         |V        |
14+50       0.3479      0.54  | Q       |         |         |V        |
14+55       0.3516      0.53  | Q       |         |         |V        |
15+ 0       0.3552      0.53  | Q       |         |         | V       |
15+ 5       0.3588      0.52  | Q       |         |         | V       |
15+10       0.3624      0.51  | Q       |         |         | V       |
15+15       0.3659      0.51  | Q       |         |         |  V      |
15+20       0.3694      0.50  | Q       |         |         |  V      |
15+25       0.3728      0.49  |Q        |         |         |  V      |
15+30       0.3761      0.49  |Q        |         |         |   V     |
15+35       0.3794      0.47  |Q        |         |         |   V     |
15+40       0.3823      0.43  |Q        |         |         |   V     |
15+45       0.3852      0.42  |Q        |         |         |    V    |
15+50       0.3880      0.41  |Q        |         |         |    V    |
15+55       0.3908      0.41  |Q        |         |         |    V    |
16+ 0       0.3936      0.40  |Q        |         |         |    V    |
16+ 5       0.3959      0.34  |Q        |         |         |     V   |
16+10       0.3973      0.19  Q        |         |         |     V   |
16+15       0.3982      0.14  Q        |         |         |     V   |
16+20       0.3990      0.12  Q        |         |         |     V   |
16+25       0.3998      0.10  Q        |         |         |     V   |
16+30       0.4004      0.10  Q        |         |         |     V   |
16+35       0.4010      0.09  Q        |         |         |     V   |
16+40       0.4015      0.07  Q        |         |         |     V   |
16+45       0.4020      0.07  Q        |         |         |     V   |
16+50       0.4024      0.07  Q        |         |         |     V   |
16+55       0.4029      0.06  Q        |         |         |     V   |
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17+ 0       0.4033      0.06  Q        |         |         |     V   |
17+ 5       0.4038      0.07  Q        |         |         |     V   |
17+10       0.4044      0.09  Q        |         |         |     V   |
17+15       0.4051      0.10  Q        |         |         |     V   |
17+20       0.4058      0.10  Q        |         |         |     V   |
17+25       0.4065      0.10  Q        |         |         |     V   |
17+30       0.4072      0.10  Q        |         |         |      V  |
17+35       0.4079      0.10  Q        |         |         |      V  |
17+40       0.4087      0.10  Q        |         |         |      V  |
17+45       0.4094      0.11  Q        |         |         |      V  |
17+50       0.4101      0.10  Q        |         |         |      V  |
17+55       0.4107      0.09  Q        |         |         |      V  |
18+ 0       0.4113      0.09  Q        |         |         |      V  |
18+ 5       0.4119      0.09  Q        |         |         |      V  |
18+10       0.4125      0.09  Q        |         |         |      V  |
18+15       0.4131      0.08  Q        |         |         |      V  |
18+20       0.4137      0.08  Q        |         |         |      V  |
18+25       0.4143      0.08  Q        |         |         |      V  |
18+30       0.4148      0.08  Q        |         |         |      V  |
18+35       0.4154      0.08  Q        |         |         |      V  |
18+40       0.4159      0.07  Q        |         |         |      V  |
18+45       0.4163      0.07  Q        |         |         |      V  |
18+50       0.4168      0.06  Q        |         |         |      V  |
18+55       0.4171      0.05  Q        |         |         |      V  |
19+ 0       0.4174      0.05  Q        |         |         |      V  |
19+ 5       0.4178      0.05  Q        |         |         |       V |
19+10       0.4182      0.06  Q        |         |         |       V |
19+15       0.4186      0.06  Q        |         |         |       V |
19+20       0.4190      0.07  Q        |         |         |       V |
19+25       0.4195      0.08  Q        |         |         |       V |
19+30       0.4201      0.08  Q        |         |         |       V |
19+35       0.4206      0.08  Q        |         |         |       V |
19+40       0.4211      0.07  Q        |         |         |       V |
19+45       0.4216      0.07  Q        |         |         |       V |
19+50       0.4220      0.06  Q        |         |         |       V |
19+55       0.4223      0.05  Q        |         |         |       V |
20+ 0       0.4226      0.05  Q        |         |         |       V |
20+ 5       0.4230      0.05  Q        |         |         |       V |
20+10       0.4234      0.06  Q        |         |         |       V |
20+15       0.4238      0.06  Q        |         |         |       V |
20+20       0.4242      0.06  Q        |         |         |       V |
20+25       0.4246      0.06  Q        |         |         |       V |
20+30       0.4251      0.06  Q        |         |         |       V |
20+35       0.4255      0.06  Q        |         |         |       V |
20+40       0.4259      0.06  Q        |         |         |       V |
20+45       0.4264      0.06  Q        |         |         |       V |
20+50       0.4268      0.06  Q        |         |         |       V |
20+55       0.4271      0.05  Q        |         |         |       V |
21+ 0       0.4274      0.05  Q        |         |         |       V |
21+ 5       0.4278      0.05  Q        |         |         |       V |
21+10       0.4282      0.06  Q        |         |         |       V |
21+15       0.4286      0.06  Q        |         |         |       V |
21+20       0.4290      0.06  Q        |         |         |        V|
21+25       0.4293      0.05  Q        |         |         |        V|
21+30       0.4296      0.05  Q        |         |         |        V|
21+35       0.4299      0.05  Q        |         |         |        V|
21+40       0.4303      0.06  Q        |         |         |        V|
21+45       0.4307      0.06  Q        |         |         |        V|
21+50       0.4311      0.06  Q        |         |         |        V|
21+55       0.4315      0.05  Q        |         |         |        V|
22+ 0       0.4318      0.05  Q        |         |         |        V|
22+ 5       0.4321      0.05  Q        |         |         |        V|
22+10       0.4325      0.06  Q        |         |         |        V|
22+15       0.4329      0.06  Q        |         |         |        V|
22+20       0.4333      0.06  Q        |         |         |        V|
22+25       0.4336      0.05  Q        |         |         |        V|
22+30       0.4340      0.05  Q        |         |         |        V|
22+35       0.4343      0.04  Q        |         |         |        V|
22+40       0.4346      0.04  Q        |         |         |        V|
```

```
   22+45       0.4349      0.04  Q        |         |         |        V|
   22+50       0.4351      0.04  Q        |         |         |        V|
   22+55       0.4354      0.04  Q        |         |         |        V|
   23+ 0       0.4357      0.04  Q        |         |         |        V|
   23+ 5       0.4360      0.04  Q        |         |         |        V|
   23+10       0.4363      0.04  Q        |         |         |        V|
   23+15       0.4366      0.04  Q        |         |         |        V|
   23+20       0.4369      0.04  Q        |         |         |        V|
   23+25       0.4372      0.04  Q        |         |         |        V|
   23+30       0.4375      0.04  Q        |         |         |        V|
   23+35       0.4378      0.04  Q        |         |         |        V|
   23+40       0.4380      0.04  Q        |         |         |        V|
   23+45       0.4383      0.04  Q        |         |         |        V|
   23+50       0.4386      0.04  Q        |         |         |        V|
   23+55       0.4389      0.04  Q        |         |         |        V|
   24+ 0       0.4392      0.04  Q        |         |         |        V|
   24+ 5       0.4394      0.03  Q        |         |         |        V|
   24+10       0.4395      0.01  Q        |         |         |        V|
   24+15       0.4396      0.01  Q        |         |         |        V|
   24+20       0.4396      0.00  Q        |         |         |        V|
   24+25       0.4396      0.00  Q        |         |         |        V|
   24+30       0.4397      0.00  Q        |         |         |        V|
   24+35       0.4397      0.00  Q        |         |         |        V|
   24+40       0.4397      0.00  Q        |         |         |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

----------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

----------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
10-YEAR STORM
BY: JTS  DATE: 02-28-23
----------------------------------------------------------------------
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1464.00(Ft.)
Length along longest watercourse measured to centroid = 865.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.164 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.087 Hr.
Lag time = 5.21 Min.
25% of lag time = 1.30 Min.
40% of lag time = 2.09 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.56 | 7.99 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.28 | 18.27 |

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.560(In)
Area Averaged 100-Year Rainfall = 1.280(In)

Point rain (area averaged) = 0.856(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.856(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
    14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 74.5  74.5      0.309     0.000        0.309       1.000      0.309
                                                  Sum (F) =   0.309
 Area averaged mean soil loss (F) (In/Hr) =  0.309
 Minimum soil loss rate ((In/Hr)) =  0.154
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.900
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5300
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083         95.911         17.950              2.581
     2   0.167        191.821         48.005              6.904
     3   0.250        287.732         16.296              2.344
     4   0.333        383.642          7.287              1.048
     5   0.417        479.553          4.148              0.597
     6   0.500        575.463          2.689              0.387
     7   0.583        671.374          1.732              0.249
     8   0.667        767.284          1.088              0.156
     9   0.750        863.195          0.807              0.116
                                 Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     3.40      0.349          0.309    (  0.314)        0.040
   2   0.17     4.70      0.483          0.309    (  0.435)        0.174
   3   0.25     4.70      0.483          0.309    (  0.435)        0.174
   4   0.33     5.10      0.524          0.309    (  0.472)        0.215
   5   0.42     5.80      0.596          0.309    (  0.536)        0.287
   6   0.50     5.90      0.606          0.309    (  0.546)        0.297
   7   0.58     7.10      0.729          0.309    (  0.656)        0.420
   8   0.67     8.70      0.894          0.309    (  0.804)        0.585
   9   0.75    13.20      1.356          0.309    (  1.220)        1.047
  10   0.83    29.70      3.051          0.309    (  2.746)        2.742
  11   0.92     7.70      0.791          0.309    (  0.712)        0.482
  12   1.00     4.00      0.411          0.309    (  0.370)        0.102
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     6.6
       Flood volume = Effective rainfall      0.55(In)
        times area      14.3(Ac.)/[(In)/(Ft.)] =       0.7(Ac.Ft)
       Total soil loss =      0.31(In)
       Total soil loss =     0.367(Ac.Ft)
       Total rainfall =      0.86(In)
       Flood volume =       28345.2 Cubic Feet
       Total soil loss =       16001.1 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     23.747(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          1 - H O U R    S T O R M
                     R u n o f f     H y d r o g r a p h
```

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0007 | 0.10 | Q | | | | |
| 0+10 | 0.0057 | 0.73 | Q | | | | |
| 0+15 | 0.0178 | 1.75 | VQ | | | | |
| 0+20 | 0.0330 | 2.21 | Q | | | | |
| 0+25 | 0.0525 | 2.84 | Q | | | | |
| 0+30 | 0.0770 | 3.56 | Q | | | | |
| 0+35 | 0.1061 | 4.22 | QV | | | | |
| 0+40 | 0.1450 | 5.66 | QV | | | | |
| 0+45 | 0.2027 | 8.37 | QV | | | | |
| 0+50 | 0.3164 | 16.52 | | V | Q | | |
| 0+55 | 0.4800 | 23.75 | | | V | Q | |
| 1+ 0 | 0.5611 | 11.78 | | Q | | V | |
| 1+ 5 | 0.6007 | 5.75 | Q | | | V | |
| 1+10 | 0.6216 | 3.03 | Q | | | V | |
| 1+15 | 0.6344 | 1.86 | Q | | | V | |
| 1+20 | 0.6424 | 1.16 | Q | | | V | |
| 1+25 | 0.6473 | 0.71 | Q | | | V | |
| 1+30 | 0.6501 | 0.42 | Q | | | V | |
| 1+35 | 0.6506 | 0.07 | Q | | | V | |
| 1+40 | 0.6507 | 0.01 | Q | | | V | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD310.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
10-YEAR STORM
BY: JTS DATE: 02-28-23

---

Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1464.00(Ft.)
Length along longest watercourse measured to centroid = 865.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.164 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.087 Hr.
Lag time = 5.21 Min.
25% of lag time = 1.30 Min.
40% of lag time = 2.09 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.96 | 13.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.23 | 31.82 |

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.960(In)
Area Averaged 100-Year Rainfall = 2.230(In)

Point rain (area averaged) = 1.482(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.482(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|

```
   14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  74.5      0.309     0.000        0.309       1.000      0.309
                                                 Sum (F) =   0.309
Area averaged mean soil loss (F) (In/Hr) =  0.309
Minimum soil loss rate ((In/Hr)) =  0.154
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)        Max   |   Low         (In/Hr)
   1   0.08     1.30      0.231       (  0.309)       0.208        0.023
   2   0.17     1.30      0.231       (  0.309)       0.208        0.023
   3   0.25     1.10      0.196       (  0.309)       0.176        0.020
   4   0.33     1.50      0.267       (  0.309)       0.240        0.027
   5   0.42     1.50      0.267       (  0.309)       0.240        0.027
   6   0.50     1.80      0.320       (  0.309)       0.288        0.032
   7   0.58     1.50      0.267       (  0.309)       0.240        0.027
   8   0.67     1.80      0.320       (  0.309)       0.288        0.032
   9   0.75     1.80      0.320       (  0.309)       0.288        0.032
  10   0.83     1.50      0.267       (  0.309)       0.240        0.027
  11   0.92     1.60      0.285       (  0.309)       0.256        0.028
  12   1.00     1.80      0.320       (  0.309)       0.288        0.032
  13   1.08     2.20      0.391          0.309    (  0.352)        0.082
  14   1.17     2.20      0.391          0.309    (  0.352)        0.082
  15   1.25     2.20      0.391          0.309    (  0.352)        0.082
  16   1.33     2.00      0.356          0.309    (  0.320)        0.047
  17   1.42     2.60      0.463          0.309    (  0.416)        0.154
  18   1.50     2.70      0.480          0.309    (  0.432)        0.171
  19   1.58     2.40      0.427          0.309    (  0.384)        0.118
  20   1.67     2.70      0.480          0.309    (  0.432)        0.171
  21   1.75     3.30      0.587          0.309    (  0.528)        0.278
  22   1.83     3.10      0.551          0.309    (  0.496)        0.243
  23   1.92     2.90      0.516          0.309    (  0.464)        0.207
  24   2.00     3.00      0.534          0.309    (  0.480)        0.225
  25   2.08     3.10      0.551          0.309    (  0.496)        0.243
  26   2.17     4.20      0.747          0.309    (  0.672)        0.438
  27   2.25     5.00      0.889          0.309    (  0.800)        0.581
  28   2.33     3.50      0.623          0.309    (  0.560)        0.314
  29   2.42     6.80      1.210          0.309    (  1.089)        0.901
```

```
30   2.50     7.30      1.299          0.309    (  1.169)        0.990
31   2.58     8.20      1.459          0.309    (  1.313)        1.150
32   2.67     5.90      1.050          0.309    (  0.945)        0.741
33   2.75     2.00      0.356          0.309    (  0.320)        0.047
34   2.83     1.80      0.320       (  0.309)       0.288        0.032
35   2.92     1.80      0.320       (  0.309)       0.288        0.032
36   3.00     0.60      0.107       (  0.309)       0.096        0.011
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =     7.7
      Flood volume = Effective rainfall      0.64(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      0.84(In)
      Total soil loss =     1.003(Ac.Ft)
      Total rainfall =      1.48(In)
      Flood volume =       33098.6 Cubic Feet
      Total soil loss =       43689.7 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     13.705(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0004      0.06  Q         |         |         |         |
  0+10       0.0019      0.22  Q         |         |         |         |
  0+15       0.0037      0.26  Q         |         |         |         |
  0+20       0.0057      0.28  Q         |         |         |         |
  0+25       0.0080      0.34  Q         |         |         |         |
  0+30       0.0106      0.37  Q         |         |         |         |
  0+35       0.0134      0.41  Q         |         |         |         |
  0+40       0.0162      0.40  Q         |         |         |         |
  0+45       0.0192      0.44  QV        |         |         |         |
  0+50       0.0222      0.43  QV        |         |         |         |
  0+55       0.0250      0.41  QV        |         |         |         |
  1+ 0       0.0279      0.42  QV        |         |         |         |
  1+ 5       0.0318      0.58  |Q        |         |         |         |
  1+10       0.0382      0.93  |QV       |         |         |         |
  1+15       0.0455      1.05  | Q       |         |         |         |
  1+20       0.0525      1.02  | Q       |         |         |         |
  1+25       0.0599      1.08  | QV      |         |         |         |
  1+30       0.0723      1.80  |  Q      |         |         |         |
  1+35       0.0861      2.01  |   Q     |         |         |         |
  1+40       0.0993      1.92  |  Q V    |         |         |         |
  1+45       0.1166      2.51  |    QV   |         |         |         |
  1+50       0.1391      3.27  |     QV  |         |         |         |
  1+55       0.1614      3.23  |     Q V |         |         |         |
  2+ 0       0.1827      3.09  |     Q  V|         |         |         |
  2+ 5       0.2049      3.22  |     Q   V         |         |         |
  2+10       0.2317      3.88  |      Q  | V       |         |         |
  2+15       0.2706      5.66  |         |Q  V     |         |         |
  2+20       0.3150      6.44  |         | Q   V   |         |         |
  2+25       0.3609      6.67  |         |  Q    V |         |         |
  2+30       0.4339     10.59  |         |         |QV       |         |
  2+35       0.5226     12.88  |         |         |    Q V  |         |
  2+40       0.6170     13.70  |         |         |      Q  | V       |
  2+45       0.6849      9.87  |         |        Q|         |     V   |
  2+50       0.7160      4.51  |        Q|         |         |      V  |
  2+55       0.7339      2.60  |    Q    |         |         |       V |
  3+ 0       0.7455      1.68  |  Q      |         |         |        V|
  3+ 5       0.7527      1.04  | Q       |         |         |        V|
  3+10       0.7566      0.58  |Q        |         |         |        V|
  3+15       0.7587      0.30  Q         |         |         |        V|
  3+20       0.7596      0.12  Q         |         |         |        V|
  3+25       0.7597      0.02  Q         |         |         |        V|
```

```
    3+30       0.7598      0.01  Q        |        |        |       V|
    3+35       0.7598      0.01  Q        |        |        |       V|
    3+40       0.7598      0.00  Q        |        |        |        V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD610.out

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---------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

---------------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
10-YEAR STORM
BY: JTS  DATE: 02-28-23
---------------------------------------------------------------------------
Drainage Area =  14.27(Ac.)  =  0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =  14.27(Ac.)  =  0.022 Sq. Mi.
Length along longest watercourse =  1464.00(Ft.)
Length along longest watercourse measured to centroid =  865.00(Ft.)
Length along longest watercourse =  0.277 Mi.
Length along longest watercourse measured to centroid =  0.164 Mi.
Difference in elevation =  39.00(Ft.)
Slope along watercourse =  140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =  0.087 Hr.
Lag time =  5.21 Min.
25% of lag time =  1.30 Min.
40% of lag time =  2.09 Min.
Unit time =  5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow =  0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.42 | 20.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 3.15 | 44.95 |

STORM EVENT (YEAR) =  10.00
Area Averaged 2-Year Rainfall =  1.420(In)
Area Averaged 100-Year Rainfall =  3.150(In)

Point rain (area averaged) =  2.132(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =  2.132(In)

Sub-Area Data:
Area(Ac.)  Runoff Index  Impervious %

```
    14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  74.5      0.309     0.000        0.309       1.000      0.309
                                                 Sum (F) =   0.309
Area averaged mean soil loss (F) (In/Hr) =  0.309
Minimum soil loss rate ((In/Hr)) =  0.154
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)        Max    |   Low        (In/Hr)
   1   0.08     0.50      0.128       (  0.309)       0.115        0.013
   2   0.17     0.60      0.153       (  0.309)       0.138        0.015
   3   0.25     0.60      0.153       (  0.309)       0.138        0.015
   4   0.33     0.60      0.153       (  0.309)       0.138        0.015
   5   0.42     0.60      0.153       (  0.309)       0.138        0.015
   6   0.50     0.70      0.179       (  0.309)       0.161        0.018
   7   0.58     0.70      0.179       (  0.309)       0.161        0.018
   8   0.67     0.70      0.179       (  0.309)       0.161        0.018
   9   0.75     0.70      0.179       (  0.309)       0.161        0.018
  10   0.83     0.70      0.179       (  0.309)       0.161        0.018
  11   0.92     0.70      0.179       (  0.309)       0.161        0.018
  12   1.00     0.80      0.205       (  0.309)       0.184        0.020
  13   1.08     0.80      0.205       (  0.309)       0.184        0.020
  14   1.17     0.80      0.205       (  0.309)       0.184        0.020
  15   1.25     0.80      0.205       (  0.309)       0.184        0.020
  16   1.33     0.80      0.205       (  0.309)       0.184        0.020
  17   1.42     0.80      0.205       (  0.309)       0.184        0.020
  18   1.50     0.80      0.205       (  0.309)       0.184        0.020
  19   1.58     0.80      0.205       (  0.309)       0.184        0.020
  20   1.67     0.80      0.205       (  0.309)       0.184        0.020
  21   1.75     0.80      0.205       (  0.309)       0.184        0.020
  22   1.83     0.80      0.205       (  0.309)       0.184        0.020
  23   1.92     0.80      0.205       (  0.309)       0.184        0.020
  24   2.00     0.90      0.230       (  0.309)       0.207        0.023
  25   2.08     0.80      0.205       (  0.309)       0.184        0.020
  26   2.17     0.90      0.230       (  0.309)       0.207        0.023
  27   2.25     0.90      0.230       (  0.309)       0.207        0.023
  28   2.33     0.90      0.230       (  0.309)       0.207        0.023
  29   2.42     0.90      0.230       (  0.309)       0.207        0.023
```

```
30   2.50     0.90      0.230       (  0.309)       0.207        0.023
31   2.58     0.90      0.230       (  0.309)       0.207        0.023
32   2.67     0.90      0.230       (  0.309)       0.207        0.023
33   2.75     1.00      0.256       (  0.309)       0.230        0.026
34   2.83     1.00      0.256       (  0.309)       0.230        0.026
35   2.92     1.00      0.256       (  0.309)       0.230        0.026
36   3.00     1.00      0.256       (  0.309)       0.230        0.026
37   3.08     1.00      0.256       (  0.309)       0.230        0.026
38   3.17     1.10      0.281       (  0.309)       0.253        0.028
39   3.25     1.10      0.281       (  0.309)       0.253        0.028
40   3.33     1.10      0.281       (  0.309)       0.253        0.028
41   3.42     1.20      0.307       (  0.309)       0.276        0.031
42   3.50     1.30      0.333       (  0.309)       0.299        0.033
43   3.58     1.40      0.358          0.309    (  0.322)        0.049
44   3.67     1.40      0.358          0.309    (  0.322)        0.049
45   3.75     1.50      0.384          0.309    (  0.345)        0.075
46   3.83     1.50      0.384          0.309    (  0.345)        0.075
47   3.92     1.60      0.409          0.309    (  0.368)        0.100
48   4.00     1.60      0.409          0.309    (  0.368)        0.100
49   4.08     1.70      0.435          0.309    (  0.391)        0.126
50   4.17     1.80      0.460          0.309    (  0.414)        0.152
51   4.25     1.90      0.486          0.309    (  0.437)        0.177
52   4.33     2.00      0.512          0.309    (  0.460)        0.203
53   4.42     2.10      0.537          0.309    (  0.483)        0.228
54   4.50     2.10      0.537          0.309    (  0.483)        0.228
55   4.58     2.20      0.563          0.309    (  0.506)        0.254
56   4.67     2.30      0.588          0.309    (  0.529)        0.279
57   4.75     2.40      0.614          0.309    (  0.553)        0.305
58   4.83     2.40      0.614          0.309    (  0.553)        0.305
59   4.92     2.50      0.639          0.309    (  0.576)        0.331
60   5.00     2.60      0.665          0.309    (  0.599)        0.356
61   5.08     3.10      0.793          0.309    (  0.714)        0.484
62   5.17     3.60      0.921          0.309    (  0.829)        0.612
63   5.25     3.90      0.998          0.309    (  0.898)        0.689
64   5.33     4.20      1.074          0.309    (  0.967)        0.765
65   5.42     4.70      1.202          0.309    (  1.082)        0.893
66   5.50     5.60      1.432          0.309    (  1.289)        1.124
67   5.58     1.90      0.486          0.309    (  0.437)        0.177
68   5.67     0.90      0.230       (  0.309)       0.207        0.023
69   5.75     0.60      0.153       (  0.309)       0.138        0.015
70   5.83     0.50      0.128       (  0.309)       0.115        0.013
71   5.92     0.30      0.077       (  0.309)       0.069        0.008
72   6.00     0.20      0.051       (  0.309)       0.046        0.005
              (Loss Rate Not Used)
   Sum =     100.0                                  Sum =     9.1
      Flood volume = Effective rainfall      0.76(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       0.9(Ac.Ft)
      Total soil loss =      1.37(In)
      Total soil loss =     1.632(Ac.Ft)
      Total rainfall =      2.13(In)
      Flood volume =       39320.0 Cubic Feet
      Total soil loss =       71098.7 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     12.318(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-----------------------------------------------------------------------
  0+ 5       0.0002      0.03  Q         |         |         |         |
  0+10       0.0011      0.13  Q         |         |         |         |
  0+15       0.0023      0.18  Q         |         |         |         |
  0+20       0.0037      0.20  Q         |         |         |         |
  0+25       0.0051      0.21  Q         |         |         |         |
```

```
0+30       0.0066      0.22  Q         |         |         |         |
0+35       0.0082      0.24  Q         |         |         |         |
0+40       0.0100      0.25  Q         |         |         |         |
0+45       0.0117      0.25  Q         |         |         |         |
0+50       0.0135      0.26  Q         |         |         |         |
0+55       0.0152      0.26  Q         |         |         |         |
1+ 0       0.0170      0.26  Q         |         |         |         |
1+ 5       0.0190      0.28  Q         |         |         |         |
1+10       0.0210      0.29  Q         |         |         |         |
1+15       0.0230      0.29  QV        |         |         |         |
1+20       0.0250      0.29  QV        |         |         |         |
1+25       0.0270      0.29  QV        |         |         |         |
1+30       0.0290      0.29  QV        |         |         |         |
1+35       0.0310      0.29  QV        |         |         |         |
1+40       0.0331      0.29  QV        |         |         |         |
1+45       0.0351      0.29  QV        |         |         |         |
1+50       0.0371      0.29  QV        |         |         |         |
1+55       0.0391      0.29  QV        |         |         |         |
2+ 0       0.0412      0.30  QV        |         |         |         |
2+ 5       0.0434      0.31  QV        |         |         |         |
2+10       0.0455      0.31  Q V       |         |         |         |
2+15       0.0477      0.32  Q V       |         |         |         |
2+20       0.0499      0.33  Q V       |         |         |         |
2+25       0.0522      0.33  Q V       |         |         |         |
2+30       0.0545      0.33  Q V       |         |         |         |
2+35       0.0568      0.33  Q V       |         |         |         |
2+40       0.0590      0.33  Q V       |         |         |         |
2+45       0.0614      0.34  Q V       |         |         |         |
2+50       0.0638      0.36  Q V       |         |         |         |
2+55       0.0663      0.36  Q V       |         |         |         |
3+ 0       0.0688      0.36  Q  V      |         |         |         |
3+ 5       0.0713      0.37  Q  V      |         |         |         |
3+10       0.0739      0.37  Q  V      |         |         |         |
3+15       0.0766      0.39  Q  V      |         |         |         |
3+20       0.0793      0.40  Q  V      |         |         |         |
3+25       0.0821      0.41  Q  V      |         |         |         |
3+30       0.0851      0.43  Q  V      |         |         |         |
3+35       0.0886      0.50  Q  V      |         |         |         |
3+40       0.0928      0.62  |Q  V      |         |         |         |
3+45       0.0978      0.73  |Q  V      |         |         |         |
3+50       0.1042      0.92  |Q  V      |         |         |         |
3+55       0.1115      1.06  | Q V      |         |         |         |
4+ 0       0.1202      1.27  | Q  V     |         |         |         |
4+ 5       0.1300      1.42  | Q  V     |         |         |         |
4+10       0.1417      1.70  |  Q  V    |         |         |         |
4+15       0.1557      2.03  |   Q V    |         |         |         |
4+20       0.1720      2.37  |   Q  V   |         |         |         |
4+25       0.1907      2.72  |    Q  V  |         |         |         |
4+30       0.2115      3.02  |     Q  V|         |         |         |
4+35       0.2336      3.20  |     Q   V         |         |         |
4+40       0.2577      3.51  |      Q  |V        |         |         |
4+45       0.2842      3.85  |      Q  | V       |         |         |
4+50       0.3127      4.14  |       Q |  V      |         |         |
4+55       0.3425      4.32  |       Q |    V    |         |         |
5+ 0       0.3743      4.62  |        Q|     V   |         |         |
5+ 5       0.4102      5.22  |         Q       V |         |         |
5+10       0.4553      6.54  |         |  Q      V         |         |
5+15       0.5102      7.98  |         |    Q    | V       |         |
5+20       0.5734      9.17  |         |       Q |    V    |         |
5+25       0.6453     10.44  |         |         Q       V |         |
5+30       0.7302     12.32  |         |         |   Q     | V       |
5+35       0.8127     11.98  |         |         |  Q      |     V   |
5+40       0.8529      5.85  |         |Q        |         |      V  |
5+45       0.8732      2.94  |    Q    |         |         |       V |
5+50       0.8854      1.76  |  Q      |         |         |        V|
5+55       0.8932      1.13  | Q       |         |         |        V|
6+ 0       0.8980      0.70  |Q        |         |         |        V|
6+ 5       0.9008      0.41  Q         |         |         |        V|
6+10       0.9022      0.20  Q         |         |         |        V|
```

```
    6+15       0.9025      0.04  Q        |         |         |        V|
    6+20       0.9026      0.01  Q        |         |         |        V|
    6+25       0.9026      0.01  Q        |         |         |        V|
    6+30       0.9026      0.00  Q        |         |         |        V|
    6+35       0.9027      0.00  Q        |         |         |        V|
    6+40       0.9027      0.00  Q        |         |         |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD2410.out

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------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

------------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
10-YEAR STORM
BY: JTS  DATE: 02-28-23
------------------------------------------------------------------------
Drainage Area =  14.27(Ac.)  =  0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =  14.27(Ac.)  =  0.022 Sq. Mi.
Length along longest watercourse =  1464.00(Ft.)
Length along longest watercourse measured to centroid =  865.00(Ft.)
Length along longest watercourse =  0.277 Mi.
Length along longest watercourse measured to centroid =  0.164 Mi.
Difference in elevation =  39.00(Ft.)
Slope along watercourse =  140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =  0.087 Hr.
Lag time =  5.21 Min.
25% of lag time =  1.30 Min.
40% of lag time =  2.09 Min.
Unit time =  5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =  0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.65 | 37.82 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 6.95 | 99.18 |

STORM EVENT (YEAR) =  10.00
Area Averaged 2-Year Rainfall =  2.650(In)
Area Averaged 100-Year Rainfall =  6.950(In)

Point rain (area averaged) =  4.419(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =  4.419(In)

Sub-Area Data:
Area(Ac.)  Runoff Index  Impervious %

```
    14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  74.5      0.309     0.000        0.309       1.000      0.309
                                                 Sum (F) =   0.309
Area averaged mean soil loss (F) (In/Hr) =  0.309
Minimum soil loss rate ((In/Hr)) =  0.154
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)        Max   |   Low         (In/Hr)
   1   0.08     0.07      0.035       (  0.548)       0.032        0.004
   2   0.17     0.07      0.035       (  0.545)       0.032        0.004
   3   0.25     0.07      0.035       (  0.543)       0.032        0.004
   4   0.33     0.10      0.053       (  0.541)       0.048        0.005
   5   0.42     0.10      0.053       (  0.539)       0.048        0.005
   6   0.50     0.10      0.053       (  0.537)       0.048        0.005
   7   0.58     0.10      0.053       (  0.535)       0.048        0.005
   8   0.67     0.10      0.053       (  0.533)       0.048        0.005
   9   0.75     0.10      0.053       (  0.531)       0.048        0.005
  10   0.83     0.13      0.071       (  0.529)       0.064        0.007
  11   0.92     0.13      0.071       (  0.527)       0.064        0.007
  12   1.00     0.13      0.071       (  0.525)       0.064        0.007
  13   1.08     0.10      0.053       (  0.522)       0.048        0.005
  14   1.17     0.10      0.053       (  0.520)       0.048        0.005
  15   1.25     0.10      0.053       (  0.518)       0.048        0.005
  16   1.33     0.10      0.053       (  0.516)       0.048        0.005
  17   1.42     0.10      0.053       (  0.514)       0.048        0.005
  18   1.50     0.10      0.053       (  0.512)       0.048        0.005
  19   1.58     0.10      0.053       (  0.510)       0.048        0.005
  20   1.67     0.10      0.053       (  0.508)       0.048        0.005
  21   1.75     0.10      0.053       (  0.506)       0.048        0.005
  22   1.83     0.13      0.071       (  0.504)       0.064        0.007
  23   1.92     0.13      0.071       (  0.502)       0.064        0.007
  24   2.00     0.13      0.071       (  0.500)       0.064        0.007
  25   2.08     0.13      0.071       (  0.498)       0.064        0.007
  26   2.17     0.13      0.071       (  0.496)       0.064        0.007
  27   2.25     0.13      0.071       (  0.494)       0.064        0.007
  28   2.33     0.13      0.071       (  0.492)       0.064        0.007
  29   2.42     0.13      0.071       (  0.490)       0.064        0.007
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 30 | 2.50 | 0.13 | 0.071 | ( 0.488) | 0.064 | 0.007 |
| 31 | 2.58 | 0.17 | 0.088 | ( 0.486) | 0.080 | 0.009 |
| 32 | 2.67 | 0.17 | 0.088 | ( 0.484) | 0.080 | 0.009 |
| 33 | 2.75 | 0.17 | 0.088 | ( 0.482) | 0.080 | 0.009 |
| 34 | 2.83 | 0.17 | 0.088 | ( 0.480) | 0.080 | 0.009 |
| 35 | 2.92 | 0.17 | 0.088 | ( 0.478) | 0.080 | 0.009 |
| 36 | 3.00 | 0.17 | 0.088 | ( 0.476) | 0.080 | 0.009 |
| 37 | 3.08 | 0.17 | 0.088 | ( 0.474) | 0.080 | 0.009 |
| 38 | 3.17 | 0.17 | 0.088 | ( 0.472) | 0.080 | 0.009 |
| 39 | 3.25 | 0.17 | 0.088 | ( 0.470) | 0.080 | 0.009 |
| 40 | 3.33 | 0.17 | 0.088 | ( 0.468) | 0.080 | 0.009 |
| 41 | 3.42 | 0.17 | 0.088 | ( 0.466) | 0.080 | 0.009 |
| 42 | 3.50 | 0.17 | 0.088 | ( 0.464) | 0.080 | 0.009 |
| 43 | 3.58 | 0.17 | 0.088 | ( 0.462) | 0.080 | 0.009 |
| 44 | 3.67 | 0.17 | 0.088 | ( 0.460) | 0.080 | 0.009 |
| 45 | 3.75 | 0.17 | 0.088 | ( 0.458) | 0.080 | 0.009 |
| 46 | 3.83 | 0.20 | 0.106 | ( 0.456) | 0.095 | 0.011 |
| 47 | 3.92 | 0.20 | 0.106 | ( 0.454) | 0.095 | 0.011 |
| 48 | 4.00 | 0.20 | 0.106 | ( 0.453) | 0.095 | 0.011 |
| 49 | 4.08 | 0.20 | 0.106 | ( 0.451) | 0.095 | 0.011 |
| 50 | 4.17 | 0.20 | 0.106 | ( 0.449) | 0.095 | 0.011 |
| 51 | 4.25 | 0.20 | 0.106 | ( 0.447) | 0.095 | 0.011 |
| 52 | 4.33 | 0.23 | 0.124 | ( 0.445) | 0.111 | 0.012 |
| 53 | 4.42 | 0.23 | 0.124 | ( 0.443) | 0.111 | 0.012 |
| 54 | 4.50 | 0.23 | 0.124 | ( 0.441) | 0.111 | 0.012 |
| 55 | 4.58 | 0.23 | 0.124 | ( 0.439) | 0.111 | 0.012 |
| 56 | 4.67 | 0.23 | 0.124 | ( 0.437) | 0.111 | 0.012 |
| 57 | 4.75 | 0.23 | 0.124 | ( 0.435) | 0.111 | 0.012 |
| 58 | 4.83 | 0.27 | 0.141 | ( 0.434) | 0.127 | 0.014 |
| 59 | 4.92 | 0.27 | 0.141 | ( 0.432) | 0.127 | 0.014 |
| 60 | 5.00 | 0.27 | 0.141 | ( 0.430) | 0.127 | 0.014 |
| 61 | 5.08 | 0.20 | 0.106 | ( 0.428) | 0.095 | 0.011 |
| 62 | 5.17 | 0.20 | 0.106 | ( 0.426) | 0.095 | 0.011 |
| 63 | 5.25 | 0.20 | 0.106 | ( 0.424) | 0.095 | 0.011 |
| 64 | 5.33 | 0.23 | 0.124 | ( 0.422) | 0.111 | 0.012 |
| 65 | 5.42 | 0.23 | 0.124 | ( 0.421) | 0.111 | 0.012 |
| 66 | 5.50 | 0.23 | 0.124 | ( 0.419) | 0.111 | 0.012 |
| 67 | 5.58 | 0.27 | 0.141 | ( 0.417) | 0.127 | 0.014 |
| 68 | 5.67 | 0.27 | 0.141 | ( 0.415) | 0.127 | 0.014 |
| 69 | 5.75 | 0.27 | 0.141 | ( 0.413) | 0.127 | 0.014 |
| 70 | 5.83 | 0.27 | 0.141 | ( 0.411) | 0.127 | 0.014 |
| 71 | 5.92 | 0.27 | 0.141 | ( 0.410) | 0.127 | 0.014 |
| 72 | 6.00 | 0.27 | 0.141 | ( 0.408) | 0.127 | 0.014 |
| 73 | 6.08 | 0.30 | 0.159 | ( 0.406) | 0.143 | 0.016 |
| 74 | 6.17 | 0.30 | 0.159 | ( 0.404) | 0.143 | 0.016 |
| 75 | 6.25 | 0.30 | 0.159 | ( 0.402) | 0.143 | 0.016 |
| 76 | 6.33 | 0.30 | 0.159 | ( 0.401) | 0.143 | 0.016 |
| 77 | 6.42 | 0.30 | 0.159 | ( 0.399) | 0.143 | 0.016 |
| 78 | 6.50 | 0.30 | 0.159 | ( 0.397) | 0.143 | 0.016 |
| 79 | 6.58 | 0.33 | 0.177 | ( 0.395) | 0.159 | 0.018 |
| 80 | 6.67 | 0.33 | 0.177 | ( 0.393) | 0.159 | 0.018 |
| 81 | 6.75 | 0.33 | 0.177 | ( 0.392) | 0.159 | 0.018 |
| 82 | 6.83 | 0.33 | 0.177 | ( 0.390) | 0.159 | 0.018 |
| 83 | 6.92 | 0.33 | 0.177 | ( 0.388) | 0.159 | 0.018 |
| 84 | 7.00 | 0.33 | 0.177 | ( 0.386) | 0.159 | 0.018 |
| 85 | 7.08 | 0.33 | 0.177 | ( 0.385) | 0.159 | 0.018 |
| 86 | 7.17 | 0.33 | 0.177 | ( 0.383) | 0.159 | 0.018 |
| 87 | 7.25 | 0.33 | 0.177 | ( 0.381) | 0.159 | 0.018 |
| 88 | 7.33 | 0.37 | 0.194 | ( 0.379) | 0.175 | 0.019 |
| 89 | 7.42 | 0.37 | 0.194 | ( 0.378) | 0.175 | 0.019 |
| 90 | 7.50 | 0.37 | 0.194 | ( 0.376) | 0.175 | 0.019 |
| 91 | 7.58 | 0.40 | 0.212 | ( 0.374) | 0.191 | 0.021 |
| 92 | 7.67 | 0.40 | 0.212 | ( 0.372) | 0.191 | 0.021 |
| 93 | 7.75 | 0.40 | 0.212 | ( 0.371) | 0.191 | 0.021 |
| 94 | 7.83 | 0.43 | 0.230 | ( 0.369) | 0.207 | 0.023 |
| 95 | 7.92 | 0.43 | 0.230 | ( 0.367) | 0.207 | 0.023 |
| 96 | 8.00 | 0.43 | 0.230 | ( 0.366) | 0.207 | 0.023 |
| 97 | 8.08 | 0.50 | 0.265 | ( 0.364) | 0.239 | 0.027 |
| 98 | 8.17 | 0.50 | 0.265 | ( 0.362) | 0.239 | 0.027 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 99 | 8.25 | 0.50 | 0.265 | ( | 0.360) | 0.239 | | 0.027 |
| 100 | 8.33 | 0.50 | 0.265 | ( | 0.359) | 0.239 | | 0.027 |
| 101 | 8.42 | 0.50 | 0.265 | ( | 0.357) | 0.239 | | 0.027 |
| 102 | 8.50 | 0.50 | 0.265 | ( | 0.355) | 0.239 | | 0.027 |
| 103 | 8.58 | 0.53 | 0.283 | ( | 0.354) | 0.255 | | 0.028 |
| 104 | 8.67 | 0.53 | 0.283 | ( | 0.352) | 0.255 | | 0.028 |
| 105 | 8.75 | 0.53 | 0.283 | ( | 0.350) | 0.255 | | 0.028 |
| 106 | 8.83 | 0.57 | 0.300 | ( | 0.349) | 0.270 | | 0.030 |
| 107 | 8.92 | 0.57 | 0.300 | ( | 0.347) | 0.270 | | 0.030 |
| 108 | 9.00 | 0.57 | 0.300 | ( | 0.346) | 0.270 | | 0.030 |
| 109 | 9.08 | 0.63 | 0.336 | ( | 0.344) | 0.302 | | 0.034 |
| 110 | 9.17 | 0.63 | 0.336 | ( | 0.342) | 0.302 | | 0.034 |
| 111 | 9.25 | 0.63 | 0.336 | ( | 0.341) | 0.302 | | 0.034 |
| 112 | 9.33 | 0.67 | 0.354 | ( | 0.339) | 0.318 | | 0.035 |
| 113 | 9.42 | 0.67 | 0.354 | ( | 0.337) | 0.318 | | 0.035 |
| 114 | 9.50 | 0.67 | 0.354 | ( | 0.336) | 0.318 | | 0.035 |
| 115 | 9.58 | 0.70 | 0.371 | ( | 0.334) | 0.334 | | 0.037 |
| 116 | 9.67 | 0.70 | 0.371 | | 0.333 | ( | 0.334) | 0.039 |
| 117 | 9.75 | 0.70 | 0.371 | | 0.331 | ( | 0.334) | 0.040 |
| 118 | 9.83 | 0.73 | 0.389 | | 0.329 | ( | 0.350) | 0.059 |
| 119 | 9.92 | 0.73 | 0.389 | | 0.328 | ( | 0.350) | 0.061 |
| 120 | 10.00 | 0.73 | 0.389 | | 0.326 | ( | 0.350) | 0.063 |
| 121 | 10.08 | 0.50 | 0.265 | ( | 0.325) | 0.239 | | 0.027 |
| 122 | 10.17 | 0.50 | 0.265 | ( | 0.323) | 0.239 | | 0.027 |
| 123 | 10.25 | 0.50 | 0.265 | ( | 0.321) | 0.239 | | 0.027 |
| 124 | 10.33 | 0.50 | 0.265 | ( | 0.320) | 0.239 | | 0.027 |
| 125 | 10.42 | 0.50 | 0.265 | ( | 0.318) | 0.239 | | 0.027 |
| 126 | 10.50 | 0.50 | 0.265 | ( | 0.317) | 0.239 | | 0.027 |
| 127 | 10.58 | 0.67 | 0.354 | | 0.315 | ( | 0.318) | 0.038 |
| 128 | 10.67 | 0.67 | 0.354 | | 0.314 | ( | 0.318) | 0.040 |
| 129 | 10.75 | 0.67 | 0.354 | | 0.312 | ( | 0.318) | 0.041 |
| 130 | 10.83 | 0.67 | 0.354 | | 0.311 | ( | 0.318) | 0.043 |
| 131 | 10.92 | 0.67 | 0.354 | | 0.309 | ( | 0.318) | 0.044 |
| 132 | 11.00 | 0.67 | 0.354 | | 0.308 | ( | 0.318) | 0.046 |
| 133 | 11.08 | 0.63 | 0.336 | ( | 0.306) | 0.302 | | 0.034 |
| 134 | 11.17 | 0.63 | 0.336 | ( | 0.305) | 0.302 | | 0.034 |
| 135 | 11.25 | 0.63 | 0.336 | ( | 0.303) | 0.302 | | 0.034 |
| 136 | 11.33 | 0.63 | 0.336 | | 0.302 | ( | 0.302) | 0.034 |
| 137 | 11.42 | 0.63 | 0.336 | | 0.300 | ( | 0.302) | 0.036 |
| 138 | 11.50 | 0.63 | 0.336 | | 0.299 | ( | 0.302) | 0.037 |
| 139 | 11.58 | 0.57 | 0.300 | ( | 0.297) | 0.270 | | 0.030 |
| 140 | 11.67 | 0.57 | 0.300 | ( | 0.296) | 0.270 | | 0.030 |
| 141 | 11.75 | 0.57 | 0.300 | ( | 0.294) | 0.270 | | 0.030 |
| 142 | 11.83 | 0.60 | 0.318 | ( | 0.293) | 0.286 | | 0.032 |
| 143 | 11.92 | 0.60 | 0.318 | ( | 0.291) | 0.286 | | 0.032 |
| 144 | 12.00 | 0.60 | 0.318 | ( | 0.290) | 0.286 | | 0.032 |
| 145 | 12.08 | 0.83 | 0.442 | | 0.288 | ( | 0.398) | 0.154 |
| 146 | 12.17 | 0.83 | 0.442 | | 0.287 | ( | 0.398) | 0.155 |
| 147 | 12.25 | 0.83 | 0.442 | | 0.285 | ( | 0.398) | 0.156 |
| 148 | 12.33 | 0.87 | 0.460 | | 0.284 | ( | 0.414) | 0.176 |
| 149 | 12.42 | 0.87 | 0.460 | | 0.283 | ( | 0.414) | 0.177 |
| 150 | 12.50 | 0.87 | 0.460 | | 0.281 | ( | 0.414) | 0.178 |
| 151 | 12.58 | 0.93 | 0.495 | | 0.280 | ( | 0.445) | 0.215 |
| 152 | 12.67 | 0.93 | 0.495 | | 0.278 | ( | 0.445) | 0.217 |
| 153 | 12.75 | 0.93 | 0.495 | | 0.277 | ( | 0.445) | 0.218 |
| 154 | 12.83 | 0.97 | 0.513 | | 0.276 | ( | 0.461) | 0.237 |
| 155 | 12.92 | 0.97 | 0.513 | | 0.274 | ( | 0.461) | 0.238 |
| 156 | 13.00 | 0.97 | 0.513 | | 0.273 | ( | 0.461) | 0.240 |
| 157 | 13.08 | 1.13 | 0.601 | | 0.271 | ( | 0.541) | 0.330 |
| 158 | 13.17 | 1.13 | 0.601 | | 0.270 | ( | 0.541) | 0.331 |
| 159 | 13.25 | 1.13 | 0.601 | | 0.269 | ( | 0.541) | 0.332 |
| 160 | 13.33 | 1.13 | 0.601 | | 0.267 | ( | 0.541) | 0.334 |
| 161 | 13.42 | 1.13 | 0.601 | | 0.266 | ( | 0.541) | 0.335 |
| 162 | 13.50 | 1.13 | 0.601 | | 0.265 | ( | 0.541) | 0.336 |
| 163 | 13.58 | 0.77 | 0.407 | | 0.263 | ( | 0.366) | 0.143 |
| 164 | 13.67 | 0.77 | 0.407 | | 0.262 | ( | 0.366) | 0.145 |
| 165 | 13.75 | 0.77 | 0.407 | | 0.261 | ( | 0.366) | 0.146 |
| 166 | 13.83 | 0.77 | 0.407 | | 0.259 | ( | 0.366) | 0.147 |
| 167 | 13.92 | 0.77 | 0.407 | | 0.258 | ( | 0.366) | 0.149 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 168 | 14.00 | 0.77 | 0.407 | | 0.257 | ( 0.366) | | 0.150 |
| 169 | 14.08 | 0.90 | 0.477 | | 0.255 | ( 0.430) | | 0.222 |
| 170 | 14.17 | 0.90 | 0.477 | | 0.254 | ( 0.430) | | 0.223 |
| 171 | 14.25 | 0.90 | 0.477 | | 0.253 | ( 0.430) | | 0.225 |
| 172 | 14.33 | 0.87 | 0.460 | | 0.251 | ( 0.414) | | 0.208 |
| 173 | 14.42 | 0.87 | 0.460 | | 0.250 | ( 0.414) | | 0.209 |
| 174 | 14.50 | 0.87 | 0.460 | | 0.249 | ( 0.414) | | 0.211 |
| 175 | 14.58 | 0.87 | 0.460 | | 0.248 | ( 0.414) | | 0.212 |
| 176 | 14.67 | 0.87 | 0.460 | | 0.246 | ( 0.414) | | 0.213 |
| 177 | 14.75 | 0.87 | 0.460 | | 0.245 | ( 0.414) | | 0.215 |
| 178 | 14.83 | 0.83 | 0.442 | | 0.244 | ( 0.398) | | 0.198 |
| 179 | 14.92 | 0.83 | 0.442 | | 0.243 | ( 0.398) | | 0.199 |
| 180 | 15.00 | 0.83 | 0.442 | | 0.241 | ( 0.398) | | 0.201 |
| 181 | 15.08 | 0.80 | 0.424 | | 0.240 | ( 0.382) | | 0.184 |
| 182 | 15.17 | 0.80 | 0.424 | | 0.239 | ( 0.382) | | 0.185 |
| 183 | 15.25 | 0.80 | 0.424 | | 0.238 | ( 0.382) | | 0.187 |
| 184 | 15.33 | 0.77 | 0.407 | | 0.236 | ( 0.366) | | 0.170 |
| 185 | 15.42 | 0.77 | 0.407 | | 0.235 | ( 0.366) | | 0.171 |
| 186 | 15.50 | 0.77 | 0.407 | | 0.234 | ( 0.366) | | 0.173 |
| 187 | 15.58 | 0.63 | 0.336 | | 0.233 | ( 0.302) | | 0.103 |
| 188 | 15.67 | 0.63 | 0.336 | | 0.232 | ( 0.302) | | 0.104 |
| 189 | 15.75 | 0.63 | 0.336 | | 0.230 | ( 0.302) | | 0.105 |
| 190 | 15.83 | 0.63 | 0.336 | | 0.229 | ( 0.302) | | 0.107 |
| 191 | 15.92 | 0.63 | 0.336 | | 0.228 | ( 0.302) | | 0.108 |
| 192 | 16.00 | 0.63 | 0.336 | | 0.227 | ( 0.302) | | 0.109 |
| 193 | 16.08 | 0.13 | 0.071 | ( 0.226) | | 0.064 | | 0.007 |
| 194 | 16.17 | 0.13 | 0.071 | ( 0.225) | | 0.064 | | 0.007 |
| 195 | 16.25 | 0.13 | 0.071 | ( 0.223) | | 0.064 | | 0.007 |
| 196 | 16.33 | 0.13 | 0.071 | ( 0.222) | | 0.064 | | 0.007 |
| 197 | 16.42 | 0.13 | 0.071 | ( 0.221) | | 0.064 | | 0.007 |
| 198 | 16.50 | 0.13 | 0.071 | ( 0.220) | | 0.064 | | 0.007 |
| 199 | 16.58 | 0.10 | 0.053 | ( 0.219) | | 0.048 | | 0.005 |
| 200 | 16.67 | 0.10 | 0.053 | ( 0.218) | | 0.048 | | 0.005 |
| 201 | 16.75 | 0.10 | 0.053 | ( 0.217) | | 0.048 | | 0.005 |
| 202 | 16.83 | 0.10 | 0.053 | ( 0.216) | | 0.048 | | 0.005 |
| 203 | 16.92 | 0.10 | 0.053 | ( 0.214) | | 0.048 | | 0.005 |
| 204 | 17.00 | 0.10 | 0.053 | ( 0.213) | | 0.048 | | 0.005 |
| 205 | 17.08 | 0.17 | 0.088 | ( 0.212) | | 0.080 | | 0.009 |
| 206 | 17.17 | 0.17 | 0.088 | ( 0.211) | | 0.080 | | 0.009 |
| 207 | 17.25 | 0.17 | 0.088 | ( 0.210) | | 0.080 | | 0.009 |
| 208 | 17.33 | 0.17 | 0.088 | ( 0.209) | | 0.080 | | 0.009 |
| 209 | 17.42 | 0.17 | 0.088 | ( 0.208) | | 0.080 | | 0.009 |
| 210 | 17.50 | 0.17 | 0.088 | ( 0.207) | | 0.080 | | 0.009 |
| 211 | 17.58 | 0.17 | 0.088 | ( 0.206) | | 0.080 | | 0.009 |
| 212 | 17.67 | 0.17 | 0.088 | ( 0.205) | | 0.080 | | 0.009 |
| 213 | 17.75 | 0.17 | 0.088 | ( 0.204) | | 0.080 | | 0.009 |
| 214 | 17.83 | 0.13 | 0.071 | ( 0.203) | | 0.064 | | 0.007 |
| 215 | 17.92 | 0.13 | 0.071 | ( 0.202) | | 0.064 | | 0.007 |
| 216 | 18.00 | 0.13 | 0.071 | ( 0.201) | | 0.064 | | 0.007 |
| 217 | 18.08 | 0.13 | 0.071 | ( 0.200) | | 0.064 | | 0.007 |
| 218 | 18.17 | 0.13 | 0.071 | ( 0.199) | | 0.064 | | 0.007 |
| 219 | 18.25 | 0.13 | 0.071 | ( 0.198) | | 0.064 | | 0.007 |
| 220 | 18.33 | 0.13 | 0.071 | ( 0.197) | | 0.064 | | 0.007 |
| 221 | 18.42 | 0.13 | 0.071 | ( 0.196) | | 0.064 | | 0.007 |
| 222 | 18.50 | 0.13 | 0.071 | ( 0.195) | | 0.064 | | 0.007 |
| 223 | 18.58 | 0.10 | 0.053 | ( 0.194) | | 0.048 | | 0.005 |
| 224 | 18.67 | 0.10 | 0.053 | ( 0.193) | | 0.048 | | 0.005 |
| 225 | 18.75 | 0.10 | 0.053 | ( 0.192) | | 0.048 | | 0.005 |
| 226 | 18.83 | 0.07 | 0.035 | ( 0.191) | | 0.032 | | 0.004 |
| 227 | 18.92 | 0.07 | 0.035 | ( 0.190) | | 0.032 | | 0.004 |
| 228 | 19.00 | 0.07 | 0.035 | ( 0.190) | | 0.032 | | 0.004 |
| 229 | 19.08 | 0.10 | 0.053 | ( 0.189) | | 0.048 | | 0.005 |
| 230 | 19.17 | 0.10 | 0.053 | ( 0.188) | | 0.048 | | 0.005 |
| 231 | 19.25 | 0.10 | 0.053 | ( 0.187) | | 0.048 | | 0.005 |
| 232 | 19.33 | 0.13 | 0.071 | ( 0.186) | | 0.064 | | 0.007 |
| 233 | 19.42 | 0.13 | 0.071 | ( 0.185) | | 0.064 | | 0.007 |
| 234 | 19.50 | 0.13 | 0.071 | ( 0.184) | | 0.064 | | 0.007 |
| 235 | 19.58 | 0.10 | 0.053 | ( 0.183) | | 0.048 | | 0.005 |
| 236 | 19.67 | 0.10 | 0.053 | ( 0.183) | | 0.048 | | 0.005 |

```
237  19.75     0.10      0.053       (  0.182)       0.048        0.005
238  19.83     0.07      0.035       (  0.181)       0.032        0.004
239  19.92     0.07      0.035       (  0.180)       0.032        0.004
240  20.00     0.07      0.035       (  0.179)       0.032        0.004
241  20.08     0.10      0.053       (  0.179)       0.048        0.005
242  20.17     0.10      0.053       (  0.178)       0.048        0.005
243  20.25     0.10      0.053       (  0.177)       0.048        0.005
244  20.33     0.10      0.053       (  0.176)       0.048        0.005
245  20.42     0.10      0.053       (  0.176)       0.048        0.005
246  20.50     0.10      0.053       (  0.175)       0.048        0.005
247  20.58     0.10      0.053       (  0.174)       0.048        0.005
248  20.67     0.10      0.053       (  0.173)       0.048        0.005
249  20.75     0.10      0.053       (  0.173)       0.048        0.005
250  20.83     0.07      0.035       (  0.172)       0.032        0.004
251  20.92     0.07      0.035       (  0.171)       0.032        0.004
252  21.00     0.07      0.035       (  0.170)       0.032        0.004
253  21.08     0.10      0.053       (  0.170)       0.048        0.005
254  21.17     0.10      0.053       (  0.169)       0.048        0.005
255  21.25     0.10      0.053       (  0.168)       0.048        0.005
256  21.33     0.07      0.035       (  0.168)       0.032        0.004
257  21.42     0.07      0.035       (  0.167)       0.032        0.004
258  21.50     0.07      0.035       (  0.167)       0.032        0.004
259  21.58     0.10      0.053       (  0.166)       0.048        0.005
260  21.67     0.10      0.053       (  0.165)       0.048        0.005
261  21.75     0.10      0.053       (  0.165)       0.048        0.005
262  21.83     0.07      0.035       (  0.164)       0.032        0.004
263  21.92     0.07      0.035       (  0.164)       0.032        0.004
264  22.00     0.07      0.035       (  0.163)       0.032        0.004
265  22.08     0.10      0.053       (  0.163)       0.048        0.005
266  22.17     0.10      0.053       (  0.162)       0.048        0.005
267  22.25     0.10      0.053       (  0.162)       0.048        0.005
268  22.33     0.07      0.035       (  0.161)       0.032        0.004
269  22.42     0.07      0.035       (  0.161)       0.032        0.004
270  22.50     0.07      0.035       (  0.160)       0.032        0.004
271  22.58     0.07      0.035       (  0.160)       0.032        0.004
272  22.67     0.07      0.035       (  0.159)       0.032        0.004
273  22.75     0.07      0.035       (  0.159)       0.032        0.004
274  22.83     0.07      0.035       (  0.158)       0.032        0.004
275  22.92     0.07      0.035       (  0.158)       0.032        0.004
276  23.00     0.07      0.035       (  0.157)       0.032        0.004
277  23.08     0.07      0.035       (  0.157)       0.032        0.004
278  23.17     0.07      0.035       (  0.157)       0.032        0.004
279  23.25     0.07      0.035       (  0.156)       0.032        0.004
280  23.33     0.07      0.035       (  0.156)       0.032        0.004
281  23.42     0.07      0.035       (  0.156)       0.032        0.004
282  23.50     0.07      0.035       (  0.156)       0.032        0.004
283  23.58     0.07      0.035       (  0.155)       0.032        0.004
284  23.67     0.07      0.035       (  0.155)       0.032        0.004
285  23.75     0.07      0.035       (  0.155)       0.032        0.004
286  23.83     0.07      0.035       (  0.155)       0.032        0.004
287  23.92     0.07      0.035       (  0.155)       0.032        0.004
288  24.00     0.07      0.035       (  0.154)       0.032        0.004
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    12.7
       Flood volume = Effective rainfall      1.06(In)
        times area      14.3(Ac.)/[(In)/(Ft.)] =       1.3(Ac.Ft)
       Total soil loss =      3.36(In)
       Total soil loss =     3.994(Ac.Ft)
       Total rainfall =      4.42(In)
       Flood volume =       54921.2 Cubic Feet
       Total soil loss =      173979.9 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      4.764(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                       R u n o f f     H y d r o g r a p h
       ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))
```

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0003 | 0.03 | Q | | | | |
| 0+15 | 0.0006 | 0.04 | Q | | | | |
| 0+20 | 0.0009 | 0.05 | Q | | | | |
| 0+25 | 0.0014 | 0.06 | Q | | | | |
| 0+30 | 0.0019 | 0.07 | Q | | | | |
| 0+35 | 0.0024 | 0.07 | Q | | | | |
| 0+40 | 0.0029 | 0.07 | Q | | | | |
| 0+45 | 0.0034 | 0.08 | Q | | | | |
| 0+50 | 0.0039 | 0.08 | Q | | | | |
| 0+55 | 0.0046 | 0.09 | Q | | | | |
| 1+ 0 | 0.0052 | 0.10 | Q | | | | |
| 1+ 5 | 0.0059 | 0.09 | Q | | | | |
| 1+10 | 0.0065 | 0.08 | Q | | | | |
| 1+15 | 0.0070 | 0.08 | Q | | | | |
| 1+20 | 0.0076 | 0.08 | Q | | | | |
| 1+25 | 0.0081 | 0.08 | Q | | | | |
| 1+30 | 0.0086 | 0.08 | Q | | | | |
| 1+35 | 0.0092 | 0.08 | Q | | | | |
| 1+40 | 0.0097 | 0.08 | Q | | | | |
| 1+45 | 0.0102 | 0.08 | Q | | | | |
| 1+50 | 0.0108 | 0.08 | Q | | | | |
| 1+55 | 0.0114 | 0.09 | Q | | | | |
| 2+ 0 | 0.0121 | 0.10 | Q | | | | |
| 2+ 5 | 0.0128 | 0.10 | Q | | | | |
| 2+10 | 0.0134 | 0.10 | Q | | | | |
| 2+15 | 0.0141 | 0.10 | Q | | | | |
| 2+20 | 0.0148 | 0.10 | Q | | | | |
| 2+25 | 0.0155 | 0.10 | Q | | | | |
| 2+30 | 0.0162 | 0.10 | Q | | | | |
| 2+35 | 0.0170 | 0.11 | Q | | | | |
| 2+40 | 0.0178 | 0.12 | Q | | | | |
| 2+45 | 0.0186 | 0.12 | Q | | | | |
| 2+50 | 0.0195 | 0.12 | Q | | | | |
| 2+55 | 0.0204 | 0.13 | Q | | | | |
| 3+ 0 | 0.0212 | 0.13 | Q | | | | |
| 3+ 5 | 0.0221 | 0.13 | Q | | | | |
| 3+10 | 0.0230 | 0.13 | Q | | | | |
| 3+15 | 0.0238 | 0.13 | Q | | | | |
| 3+20 | 0.0247 | 0.13 | Q | | | | |
| 3+25 | 0.0256 | 0.13 | Q | | | | |
| 3+30 | 0.0265 | 0.13 | Q | | | | |
| 3+35 | 0.0274 | 0.13 | Q | | | | |
| 3+40 | 0.0282 | 0.13 | Q | | | | |
| 3+45 | 0.0291 | 0.13 | Q | | | | |
| 3+50 | 0.0300 | 0.13 | Q | | | | |
| 3+55 | 0.0310 | 0.14 | Q | | | | |
| 4+ 0 | 0.0320 | 0.15 | QV | | | | |
| 4+ 5 | 0.0331 | 0.15 | QV | | | | |
| 4+10 | 0.0341 | 0.15 | QV | | | | |
| 4+15 | 0.0351 | 0.15 | QV | | | | |
| 4+20 | 0.0362 | 0.16 | QV | | | | |
| 4+25 | 0.0374 | 0.17 | QV | | | | |
| 4+30 | 0.0386 | 0.17 | QV | | | | |
| 4+35 | 0.0398 | 0.18 | QV | | | | |
| 4+40 | 0.0410 | 0.18 | QV | | | | |
| 4+45 | 0.0422 | 0.18 | QV | | | | |
| 4+50 | 0.0435 | 0.18 | QV | | | | |
| 4+55 | 0.0448 | 0.19 | QV | | | | |
| 5+ 0 | 0.0462 | 0.20 | QV | | | | |
| 5+ 5 | 0.0475 | 0.19 | QV | | | | |
| 5+10 | 0.0487 | 0.17 | QV | | | | |
| 5+15 | 0.0498 | 0.16 | QV | | | | |
| 5+20 | 0.0509 | 0.16 | QV | | | | |
| 5+25 | 0.0521 | 0.17 | QV | | | | |

```
 5+30      0.0533      0.18  QV       |        |        |        |
 5+35      0.0545      0.18  QV       |        |        |        |
 5+40      0.0559      0.19  QV       |        |        |        |
 5+45      0.0572      0.20  QV       |        |        |        |
 5+50      0.0586      0.20  QV       |        |        |        |
 5+55      0.0600      0.20  QV       |        |        |        |
 6+ 0      0.0614      0.20  QV       |        |        |        |
 6+ 5      0.0628      0.21  QV       |        |        |        |
 6+10      0.0643      0.22  Q V      |        |        |        |
 6+15      0.0659      0.22  Q V      |        |        |        |
 6+20      0.0674      0.23  Q V      |        |        |        |
 6+25      0.0690      0.23  Q V      |        |        |        |
 6+30      0.0706      0.23  Q V      |        |        |        |
 6+35      0.0722      0.23  Q V      |        |        |        |
 6+40      0.0739      0.25  Q V      |        |        |        |
 6+45      0.0756      0.25  Q V      |        |        |        |
 6+50      0.0773      0.25  |QV      |        |        |        |
 6+55      0.0791      0.25  |QV      |        |        |        |
 7+ 0      0.0808      0.25  |QV      |        |        |        |
 7+ 5      0.0826      0.25  |QV      |        |        |        |
 7+10      0.0843      0.25  |QV      |        |        |        |
 7+15      0.0861      0.25  |QV      |        |        |        |
 7+20      0.0878      0.26  |QV      |        |        |        |
 7+25      0.0897      0.27  |QV      |        |        |        |
 7+30      0.0916      0.28  |QV      |        |        |        |
 7+35      0.0935      0.28  |QV      |        |        |        |
 7+40      0.0956      0.29  |Q V     |        |        |        |
 7+45      0.0976      0.30  |Q V     |        |        |        |
 7+50      0.0998      0.31  |Q V     |        |        |        |
 7+55      0.1020      0.32  |Q V     |        |        |        |
 8+ 0      0.1042      0.33  |Q V     |        |        |        |
 8+ 5      0.1065      0.34  |Q V     |        |        |        |
 8+10      0.1090      0.36  |Q V     |        |        |        |
 8+15      0.1116      0.37  |Q V     |        |        |        |
 8+20      0.1142      0.38  |Q V     |        |        |        |
 8+25      0.1168      0.38  |Q V     |        |        |        |
 8+30      0.1194      0.38  |Q V     |        |        |        |
 8+35      0.1220      0.39  |Q V     |        |        |        |
 8+40      0.1248      0.40  |Q V     |        |        |        |
 8+45      0.1275      0.40  |Q  V    |        |        |        |
 8+50      0.1304      0.41  |Q  V    |        |        |        |
 8+55      0.1333      0.42  |Q  V    |        |        |        |
 9+ 0      0.1362      0.43  |Q  V    |        |        |        |
 9+ 5      0.1392      0.44  |Q  V    |        |        |        |
 9+10      0.1424      0.46  |Q  V    |        |        |        |
 9+15      0.1457      0.47  |Q  V    |        |        |        |
 9+20      0.1490      0.48  |Q  V    |        |        |        |
 9+25      0.1524      0.50  |Q  V    |        |        |        |
 9+30      0.1559      0.50  | Q V    |        |        |        |
 9+35      0.1594      0.51  | Q  V   |        |        |        |
 9+40      0.1630      0.53  | Q  V   |        |        |        |
 9+45      0.1668      0.55  | Q  V   |        |        |        |
 9+50      0.1710      0.61  | Q  V   |        |        |        |
 9+55      0.1762      0.76  |  Q V   |        |        |        |
10+ 0      0.1819      0.82  |  Q V   |        |        |        |
10+ 5      0.1872      0.76  |  Q V   |        |        |        |
10+10      0.1908      0.53  | Q   V  |        |        |        |
10+15      0.1940      0.46  |Q    V  |        |        |        |
10+20      0.1969      0.43  |Q    V  |        |        |        |
10+25      0.1998      0.41  |Q    V  |        |        |        |
10+30      0.2025      0.40  |Q    V  |        |        |        |
10+35      0.2054      0.42  |Q    V  |        |        |        |
10+40      0.2089      0.50  | Q   V  |        |        |        |
10+45      0.2126      0.54  | Q   V  |        |        |        |
10+50      0.2165      0.57  | Q   V  |        |        |        |
10+55      0.2206      0.60  | Q   V  |        |        |        |
11+ 0      0.2249      0.62  | Q    V |        |        |        |
11+ 5      0.2291      0.61  | Q    V |        |        |        |
11+10      0.2328      0.53  | Q    V |        |        |        |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11+15 | 0.2363 | 0.51 | \| Q V \| | \| | \| | \| |
| 11+20 | 0.2397 | 0.50 | \| Q V \| | \| | \| | \| |
| 11+25 | 0.2432 | 0.50 | \| Q V \| | \| | \| | \| |
| 11+30 | 0.2467 | 0.51 | \| Q V \| | \| | \| | \| |
| 11+35 | 0.2502 | 0.51 | \| Q V \| | \| | \| | \| |
| 11+40 | 0.2534 | 0.46 | \|Q V \| | \| | \| | \| |
| 11+45 | 0.2565 | 0.45 | \|Q V \| | \| | \| | \| |
| 11+50 | 0.2596 | 0.45 | \|Q V \| | \| | \| | \| |
| 11+55 | 0.2627 | 0.45 | \|Q V \| | \| | \| | \| |
| 12+ 0 | 0.2658 | 0.46 | \|Q V \| | \| | \| | \| |
| 12+ 5 | 0.2711 | 0.77 | \| Q V \| | \| | \| | \| |
| 12+10 | 0.2823 | 1.62 | \| Q V \| | \| | \| | \| |
| 12+15 | 0.2955 | 1.91 | \| Q V\| | \| | \| | \| |
| 12+20 | 0.3100 | 2.11 | \| QV\| | \| | \| | \| |
| 12+25 | 0.3259 | 2.32 | \| QV \| | \| | \| | \| |
| 12+30 | 0.3427 | 2.43 | \| QV \| | \| | \| | \| |
| 12+35 | 0.3605 | 2.59 | \| QV \| | \| | \| | \| |
| 12+40 | 0.3803 | 2.88 | \| QV \| | \| | \| | \| |
| 12+45 | 0.4010 | 3.00 | \| Q \| | \| | \| | \| |
| 12+50 | 0.4224 | 3.11 | \| QV \| | \| | \| | \| |
| 12+55 | 0.4450 | 3.28 | \| QV \| | \| | \| | \| |
| 13+ 0 | 0.4681 | 3.36 | \| QV \| | \| | \| | \| |
| 13+ 5 | 0.4931 | 3.63 | \| QV \| | \| | \| | \| |
| 13+10 | 0.5226 | 4.28 | \| VQ \| | \| | \| | \| |
| 13+15 | 0.5537 | 4.52 | \| VQ \| | \| | \| | \| |
| 13+20 | 0.5856 | 4.63 | \| Q \| | \| | \| | \| |
| 13+25 | 0.6180 | 4.71 | \| QV\| | \| | \| | \| |
| 13+30 | 0.6508 | 4.76 | \| QV \| | \| | \| | \| |
| 13+35 | 0.6805 | 4.30 | \| Q \|V \| | \| | \| | \| |
| 13+40 | 0.7011 | 2.99 | \|Q \| V \| | \| | \| | \| |
| 13+45 | 0.7188 | 2.57 | \| Q \| V \| | \| | \| | \| |
| 13+50 | 0.7352 | 2.38 | \| Q\| \| V \| | \| | \| | \| |
| 13+55 | 0.7509 | 2.29 | \| Q\| \| V \| | \| | \| | \| |
| 14+ 0 | 0.7663 | 2.23 | \| Q \| \| V \| | \| | \| | \| |
| 14+ 5 | 0.7827 | 2.38 | \| Q\| \| V \| | \| | \| | \| |
| 14+10 | 0.8024 | 2.86 | \| \|Q \| V \| | \| | \| | \| |
| 14+15 | 0.8232 | 3.02 | \| \| Q \| V \| | \| | \| | \| |
| 14+20 | 0.8443 | 3.07 | \| \| Q \| V \| | \| | \| | \| |
| 14+25 | 0.8650 | 3.01 | \| \| Q \| V \| | \| | \| | \| |
| 14+30 | 0.8858 | 3.01 | \| \| Q \| V \| | \| | \| | \| |
| 14+35 | 0.9066 | 3.03 | \| \| Q \| V \| | \| | \| | \| |
| 14+40 | 0.9276 | 3.05 | \| \| Q \| V\| | \| | \| | \| |
| 14+45 | 0.9487 | 3.07 | \| \| Q \| V \| | \| | \| | \| |
| 14+50 | 0.9696 | 3.04 | \| \| Q \| V \| | \| | \| | \| |
| 14+55 | 0.9898 | 2.93 | \| \|Q \| V \| | \| | \| | \| |
| 15+ 0 | 1.0098 | 2.90 | \| \|Q \| V \| | \| | \| | \| |
| 15+ 5 | 1.0295 | 2.86 | \| \|Q \| V \| | \| | \| | \| |
| 15+10 | 1.0484 | 2.74 | \| Q \| V \| | \| | \| | \| |
| 15+15 | 1.0671 | 2.71 | \| Q \| V \| | \| | \| | \| |
| 15+20 | 1.0854 | 2.66 | \| Q \| V \| | \| | \| | \| |
| 15+25 | 1.1029 | 2.54 | \| Q \| V \| | \| | \| | \| |
| 15+30 | 1.1202 | 2.51 | \| Q \| V \| | \| | \| | \| |
| 15+35 | 1.1362 | 2.32 | \| Q\| V \| | \| | \| | \| |
| 15+40 | 1.1489 | 1.84 | \| Q \| V \| | \| | \| | \| |
| 15+45 | 1.1604 | 1.68 | \| Q \| V \| | \| | \| | \| |
| 15+50 | 1.1716 | 1.62 | \| Q \| V \| | \| | \| | \| |
| 15+55 | 1.1825 | 1.59 | \| Q \| V \| | \| | \| | \| |
| 16+ 0 | 1.1934 | 1.58 | \| Q \| V \| | \| | \| | \| |
| 16+ 5 | 1.2025 | 1.31 | \| Q \| V \| | \| | \| | \| |
| 16+10 | 1.2066 | 0.60 | \| Q \| V \| | \| | \| | \| |
| 16+15 | 1.2091 | 0.36 | \|Q \| V \| | \| | \| | \| |
| 16+20 | 1.2108 | 0.25 | \|Q \| V \| | \| | \| | \| |
| 16+25 | 1.2121 | 0.19 | \|Q \| V \| | \| | \| | \| |
| 16+30 | 1.2132 | 0.15 | \|Q \| V \| | \| | \| | \| |
| 16+35 | 1.2141 | 0.12 | \|Q \| V \| | \| | \| | \| |
| 16+40 | 1.2147 | 0.10 | \|Q \| V \| | \| | \| | \| |
| 16+45 | 1.2153 | 0.08 | \|Q \| V \| | \| | \| | \| |
| 16+50 | 1.2158 | 0.08 | \|Q \| V \| | \| | \| | \| |
| 16+55 | 1.2164 | 0.08 | \|Q \| V \| | \| | \| | \| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+ 0 | 1.2169 | 0.08 | Q | \| | \| | \| | V \| |
| 17+ 5 | 1.2175 | 0.09 | Q | \| | \| | \| | V \| |
| 17+10 | 1.2182 | 0.11 | Q | \| | \| | \| | V \| |
| 17+15 | 1.2191 | 0.12 | Q | \| | \| | \| | V \| |
| 17+20 | 1.2199 | 0.12 | Q | \| | \| | \| | V \| |
| 17+25 | 1.2208 | 0.12 | Q | \| | \| | \| | V \| |
| 17+30 | 1.2216 | 0.13 | Q | \| | \| | \| | V \| |
| 17+35 | 1.2225 | 0.13 | Q | \| | \| | \| | V \| |
| 17+40 | 1.2234 | 0.13 | Q | \| | \| | \| | V \| |
| 17+45 | 1.2242 | 0.13 | Q | \| | \| | \| | V \| |
| 17+50 | 1.2251 | 0.12 | Q | \| | \| | \| | V \| |
| 17+55 | 1.2258 | 0.11 | Q | \| | \| | \| | V \| |
| 18+ 0 | 1.2266 | 0.11 | Q | \| | \| | \| | V \| |
| 18+ 5 | 1.2273 | 0.10 | Q | \| | \| | \| | V \| |
| 18+10 | 1.2280 | 0.10 | Q | \| | \| | \| | V \| |
| 18+15 | 1.2287 | 0.10 | Q | \| | \| | \| | V \| |
| 18+20 | 1.2294 | 0.10 | Q | \| | \| | \| | V\| |
| 18+25 | 1.2301 | 0.10 | Q | \| | \| | \| | V\| |
| 18+30 | 1.2308 | 0.10 | Q | \| | \| | \| | V\| |
| 18+35 | 1.2315 | 0.10 | Q | \| | \| | \| | V\| |
| 18+40 | 1.2321 | 0.08 | Q | \| | \| | \| | V\| |
| 18+45 | 1.2326 | 0.08 | Q | \| | \| | \| | V\| |
| 18+50 | 1.2331 | 0.07 | Q | \| | \| | \| | V\| |
| 18+55 | 1.2336 | 0.06 | Q | \| | \| | \| | V\| |
| 19+ 0 | 1.2339 | 0.06 | Q | \| | \| | \| | V\| |
| 19+ 5 | 1.2344 | 0.06 | Q | \| | \| | \| | V\| |
| 19+10 | 1.2348 | 0.07 | Q | \| | \| | \| | V\| |
| 19+15 | 1.2353 | 0.07 | Q | \| | \| | \| | V\| |
| 19+20 | 1.2359 | 0.08 | Q | \| | \| | \| | V\| |
| 19+25 | 1.2365 | 0.09 | Q | \| | \| | \| | V\| |
| 19+30 | 1.2372 | 0.10 | Q | \| | \| | \| | V\| |
| 19+35 | 1.2378 | 0.09 | Q | \| | \| | \| | V\| |
| 19+40 | 1.2384 | 0.08 | Q | \| | \| | \| | V\| |
| 19+45 | 1.2389 | 0.08 | Q | \| | \| | \| | V\| |
| 19+50 | 1.2394 | 0.07 | Q | \| | \| | \| | V\| |
| 19+55 | 1.2399 | 0.06 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.2403 | 0.06 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.2407 | 0.06 | Q | \| | \| | \| | V\| |
| 20+10 | 1.2411 | 0.07 | Q | \| | \| | \| | V\| |
| 20+15 | 1.2416 | 0.07 | Q | \| | \| | \| | V\| |
| 20+20 | 1.2421 | 0.07 | Q | \| | \| | \| | V\| |
| 20+25 | 1.2427 | 0.07 | Q | \| | \| | \| | V\| |
| 20+30 | 1.2432 | 0.08 | Q | \| | \| | \| | V\| |
| 20+35 | 1.2437 | 0.08 | Q | \| | \| | \| | V\| |
| 20+40 | 1.2442 | 0.08 | Q | \| | \| | \| | V\| |
| 20+45 | 1.2448 | 0.08 | Q | \| | \| | \| | V\| |
| 20+50 | 1.2452 | 0.07 | Q | \| | \| | \| | V\| |
| 20+55 | 1.2457 | 0.06 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.2460 | 0.06 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.2464 | 0.06 | Q | \| | \| | \| | V\| |
| 21+10 | 1.2469 | 0.07 | Q | \| | \| | \| | V\| |
| 21+15 | 1.2474 | 0.07 | Q | \| | \| | \| | V\| |
| 21+20 | 1.2479 | 0.07 | Q | \| | \| | \| | V\| |
| 21+25 | 1.2483 | 0.06 | Q | \| | \| | \| | V\| |
| 21+30 | 1.2487 | 0.05 | Q | \| | \| | \| | V\| |
| 21+35 | 1.2491 | 0.06 | Q | \| | \| | \| | V\| |
| 21+40 | 1.2495 | 0.07 | Q | \| | \| | \| | V\| |
| 21+45 | 1.2500 | 0.07 | Q | \| | \| | \| | V\| |
| 21+50 | 1.2505 | 0.07 | Q | \| | \| | \| | V\| |
| 21+55 | 1.2509 | 0.06 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.2513 | 0.05 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.2517 | 0.06 | Q | \| | \| | \| | V\| |
| 22+10 | 1.2522 | 0.07 | Q | \| | \| | \| | V\| |
| 22+15 | 1.2527 | 0.07 | Q | \| | \| | \| | V\| |
| 22+20 | 1.2532 | 0.07 | Q | \| | \| | \| | V\| |
| 22+25 | 1.2536 | 0.06 | Q | \| | \| | \| | V\| |
| 22+30 | 1.2539 | 0.05 | Q | \| | \| | \| | V\| |
| 22+35 | 1.2543 | 0.05 | Q | \| | \| | \| | V\| |
| 22+40 | 1.2547 | 0.05 | Q | \| | \| | \| | V\| |

```
   22+45       1.2550      0.05  Q        |         |         |        V|
   22+50       1.2554      0.05  Q        |         |         |        V|
   22+55       1.2557      0.05  Q        |         |         |        V|
   23+ 0       1.2561      0.05  Q        |         |         |        V|
   23+ 5       1.2564      0.05  Q        |         |         |        V|
   23+10       1.2568      0.05  Q        |         |         |        V|
   23+15       1.2571      0.05  Q        |         |         |        V|
   23+20       1.2575      0.05  Q        |         |         |        V|
   23+25       1.2578      0.05  Q        |         |         |        V|
   23+30       1.2582      0.05  Q        |         |         |        V|
   23+35       1.2585      0.05  Q        |         |         |        V|
   23+40       1.2589      0.05  Q        |         |         |        V|
   23+45       1.2592      0.05  Q        |         |         |        V|
   23+50       1.2596      0.05  Q        |         |         |        V|
   23+55       1.2599      0.05  Q        |         |         |        V|
   24+ 0       1.2603      0.05  Q        |         |         |        V|
   24+ 5       1.2606      0.04  Q        |         |         |        V|
   24+10       1.2607      0.02  Q        |         |         |        V|
   24+15       1.2607      0.01  Q        |         |         |        V|
   24+20       1.2608      0.01  Q        |         |         |        V|
   24+25       1.2608      0.00  Q        |         |         |        V|
   24+30       1.2608      0.00  Q        |         |         |        V|
   24+35       1.2608      0.00  Q        |         |         |        V|
   24+40       1.2608      0.00  Q        |         |         |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
Study date 02/28/23 File: EXHYD1100.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

------------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
100-YEAR STORM
BY: JTS  DATE: 02-28-23
------------------------------------------------------------------------
Drainage Area =  14.27(Ac.)  =  0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =  14.27(Ac.)  =  0.022 Sq. Mi.
Length along longest watercourse =  1464.00(Ft.)
Length along longest watercourse measured to centroid =  865.00(Ft.)
Length along longest watercourse =  0.277 Mi.
Length along longest watercourse measured to centroid =  0.164 Mi.
Difference in elevation =  39.00(Ft.)
Slope along watercourse =  140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =  0.087 Hr.
Lag time =  5.21 Min.
25% of lag time =  1.30 Min.
40% of lag time =  2.09 Min.
Unit time =  5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =  0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.56 | 7.99 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.28 | 18.27 |

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =  0.560(In)
Area Averaged 100-Year Rainfall =  1.280(In)

Point rain (area averaged) =  1.280(In)
Areal adjustment factor =  99.99 %
Adjusted average point rain =  1.280(In)

Sub-Area Data:
Area(Ac.)  Runoff Index  Impervious %

```
   14.270          74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  74.5      0.309     0.000        0.309       1.000      0.309
                                                 Sum (F) =   0.309
Area averaged mean soil loss (F) (In/Hr) =  0.309
Minimum soil loss rate ((In/Hr)) =  0.154
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------
    1   0.083         95.911         17.950             2.581
    2   0.167        191.821         48.005             6.904
    3   0.250        287.732         16.296             2.344
    4   0.333        383.642          7.287             1.048
    5   0.417        479.553          4.148             0.597
    6   0.500        575.463          2.689             0.387
    7   0.583        671.374          1.732             0.249
    8   0.667        767.284          1.088             0.156
    9   0.750        863.195          0.807             0.116
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     3.40      0.522          0.309    (  0.470)        0.213
   2   0.17     4.70      0.722          0.309    (  0.650)        0.413
   3   0.25     4.70      0.722          0.309    (  0.650)        0.413
   4   0.33     5.10      0.783          0.309    (  0.705)        0.474
   5   0.42     5.80      0.891          0.309    (  0.802)        0.582
   6   0.50     5.90      0.906          0.309    (  0.816)        0.597
   7   0.58     7.10      1.090          0.309    (  0.981)        0.782
   8   0.67     8.70      1.336          0.309    (  1.203)        1.027
   9   0.75    13.20      2.027          0.309    (  1.825)        1.718
  10   0.83    29.70      4.561          0.309    (  4.105)        4.252
  11   0.92     7.70      1.183          0.309    (  1.064)        0.874
  12   1.00     4.00      0.614          0.309    (  0.553)        0.305
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    11.7
       Flood volume = Effective rainfall      0.97(In)
        times area      14.3(Ac.)/[(In)/(Ft.)] =       1.2(Ac.Ft)
       Total soil loss =      0.31(In)
       Total soil loss =     0.367(Ac.Ft)
       Total rainfall =      1.28(In)
       Flood volume =       50294.5 Cubic Feet
       Total soil loss =       16001.1 Cubic Feet
       ------------------------------------------------------------------
        Peak flow rate of this hydrograph =     37.700(CFS)
       ------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
                    R u n o f f     H y d r o g r a p h
```

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0038 | 0.55 | Q | | | | |
| 0+10 | 0.0213 | 2.54 | V Q | | | | |
| 0+15 | 0.0517 | 4.42 | V Q | | | | |
| 0+20 | 0.0880 | 5.27 | V Q | | | | |
| 0+25 | 0.1314 | 6.31 | V Q | | | | |
| 0+30 | 0.1827 | 7.44 | VQ | | | | |
| 0+35 | 0.2410 | 8.46 | Q | | | | |
| 0+40 | 0.3142 | 10.64 | Q | | | | |
| 0+45 | 0.4156 | 14.72 | Q | | | | |
| 0+50 | 0.6008 | 26.89 | V Q | | | | |
| 0+55 | 0.8604 | 37.70 | V Q | | | | |
| 1+ 0 | 0.9969 | 19.81 | Q V | | | | |
| 1+ 5 | 1.0685 | 10.40 | Q V | | | | |
| 1+10 | 1.1048 | 5.28 | Q V | | | | |
| 1+15 | 1.1266 | 3.17 | Q V | | | | |
| 1+20 | 1.1402 | 1.97 | Q V | | | | |
| 1+25 | 1.1485 | 1.20 | Q V | | | | |
| 1+30 | 1.1533 | 0.71 | Q V | | | | |
| 1+35 | 1.1544 | 0.15 | Q V | | | | |
| 1+40 | 1.1546 | 0.04 | Q V | | | | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

------------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
100-YEAR STORM
BY: JTS  DATE: 02-28-23
------------------------------------------------------------------------
Drainage Area =  14.27(Ac.)  =  0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =  14.27(Ac.)  =  0.022 Sq. Mi.
Length along longest watercourse =  1464.00(Ft.)
Length along longest watercourse measured to centroid =  865.00(Ft.)
Length along longest watercourse =  0.277 Mi.
Length along longest watercourse measured to centroid =  0.164 Mi.
Difference in elevation =  39.00(Ft.)
Slope along watercourse =  140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =  0.087 Hr.
Lag time =  5.21 Min.
25% of lag time =  1.30 Min.
40% of lag time =  2.09 Min.
Unit time =  5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow =  0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.96 | 13.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.23 | 31.82 |

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =  0.960(In)
Area Averaged 100-Year Rainfall =  2.230(In)

Point rain (area averaged) =  2.230(In)
Areal adjustment factor =  99.99 %
Adjusted average point rain =  2.230(In)

Sub-Area Data:
Area(Ac.)  Runoff Index  Impervious %

```
    14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  74.5      0.309     0.000        0.309       1.000      0.309
                                                 Sum (F) =   0.309
Area averaged mean soil loss (F) (In/Hr) =  0.309
Minimum soil loss rate ((In/Hr)) =  0.154
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     1.30      0.348          0.309    (  0.313)        0.039
   2   0.17     1.30      0.348          0.309    (  0.313)        0.039
   3   0.25     1.10      0.294       (  0.309)       0.265        0.029
   4   0.33     1.50      0.401          0.309    (  0.361)        0.092
   5   0.42     1.50      0.401          0.309    (  0.361)        0.092
   6   0.50     1.80      0.482          0.309    (  0.433)        0.173
   7   0.58     1.50      0.401          0.309    (  0.361)        0.092
   8   0.67     1.80      0.482          0.309    (  0.433)        0.173
   9   0.75     1.80      0.482          0.309    (  0.433)        0.173
  10   0.83     1.50      0.401          0.309    (  0.361)        0.092
  11   0.92     1.60      0.428          0.309    (  0.385)        0.119
  12   1.00     1.80      0.482          0.309    (  0.433)        0.173
  13   1.08     2.20      0.589          0.309    (  0.530)        0.280
  14   1.17     2.20      0.589          0.309    (  0.530)        0.280
  15   1.25     2.20      0.589          0.309    (  0.530)        0.280
  16   1.33     2.00      0.535          0.309    (  0.482)        0.226
  17   1.42     2.60      0.696          0.309    (  0.626)        0.387
  18   1.50     2.70      0.722          0.309    (  0.650)        0.414
  19   1.58     2.40      0.642          0.309    (  0.578)        0.333
  20   1.67     2.70      0.722          0.309    (  0.650)        0.414
  21   1.75     3.30      0.883          0.309    (  0.795)        0.574
  22   1.83     3.10      0.830          0.309    (  0.747)        0.521
  23   1.92     2.90      0.776          0.309    (  0.698)        0.467
  24   2.00     3.00      0.803          0.309    (  0.722)        0.494
  25   2.08     3.10      0.830          0.309    (  0.747)        0.521
  26   2.17     4.20      1.124          0.309    (  1.011)        0.815
  27   2.25     5.00      1.338          0.309    (  1.204)        1.029
  28   2.33     3.50      0.937          0.309    (  0.843)        0.628
  29   2.42     6.80      1.820          0.309    (  1.638)        1.511
```

```
30   2.50     7.30      1.953          0.309    (  1.758)        1.644
31   2.58     8.20      2.194          0.309    (  1.975)        1.885
32   2.67     5.90      1.579          0.309    (  1.421)        1.270
33   2.75     2.00      0.535          0.309    (  0.482)        0.226
34   2.83     1.80      0.482          0.309    (  0.433)        0.173
35   2.92     1.80      0.482          0.309    (  0.433)        0.173
36   3.00     0.60      0.161       (  0.309)       0.144        0.016
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    15.8
      Flood volume = Effective rainfall      1.32(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       1.6(Ac.Ft)
      Total soil loss =      0.91(In)
      Total soil loss =     1.081(Ac.Ft)
      Total rainfall =      2.23(In)
      Flood volume =       68403.4 Cubic Feet
      Total soil loss =       47103.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     22.857(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        7.5      15.0      22.5      30.0
-------------------------------------------------------------------------
  0+ 5       0.0007      0.10  Q         |         |         |         |
  0+10       0.0032      0.37  Q         |         |         |         |
  0+15       0.0062      0.44  Q         |         |         |         |
  0+20       0.0102      0.57  Q         |         |         |         |
  0+25       0.0172      1.01  VQ        |         |         |         |
  0+30       0.0266      1.37  VQ        |         |         |         |
  0+35       0.0389      1.79  V Q       |         |         |         |
  0+40       0.0504      1.67  |VQ       |         |         |         |
  0+45       0.0652      2.15  |VQ       |         |         |         |
  0+50       0.0797      2.11  | Q       |         |         |         |
  0+55       0.0914      1.70  | Q       |         |         |         |
  1+ 0       0.1043      1.87  | Q       |         |         |         |
  1+ 5       0.1217      2.52  |  Q      |         |         |         |
  1+10       0.1450      3.38  |  VQ     |         |         |         |
  1+15       0.1703      3.68  |   Q     |         |         |         |
  1+20       0.1957      3.69  |   Q     |         |         |         |
  1+25       0.2219      3.81  |    Q    |         |         |         |
  1+30       0.2558      4.91  |     Q   |         |         |         |
  1+35       0.2919      5.25  |     QV  |         |         |         |
  1+40       0.3272      5.12  |     Q V |         |         |         |
  1+45       0.3686      6.02  |       QV|         |         |         |
  1+50       0.4179      7.16  |        QV         |         |         |
  1+55       0.4669      7.11  |        Q|V        |         |         |
  2+ 0       0.5143      6.89  |        Q|  V      |         |         |
  2+ 5       0.5632      7.09  |        Q|   V     |         |         |
  2+10       0.6189      8.08  |         Q    V    |         |         |
  2+15       0.6929     10.75  |         |   Q  V  |         |         |
  2+20       0.7751     11.93  |         |    Q   V|         |         |
  2+25       0.8596     12.27  |         |     Q   |V        |         |
  2+30       0.9848     18.18  |         |         |   QV    |         |
  2+35       1.1336     21.62  |         |         |       Q |         |
  2+40       1.2911     22.86  |         |         |         Q V       |
  2+45       1.4088     17.09  |         |         | Q       |    V    |
  2+50       1.4703      8.94  |         |Q        |         |      V  |
  2+55       1.5107      5.86  |      Q  |         |         |       V |
  3+ 0       1.5388      4.08  |    Q    |         |         |        V|
  3+ 5       1.5541      2.23  | Q       |         |         |        V|
  3+10       1.5625      1.21  |Q        |         |         |        V|
  3+15       1.5670      0.66  Q         |         |         |        V|
  3+20       1.5691      0.30  Q         |         |         |        V|
  3+25       1.5698      0.10  Q         |         |         |        V|
```

```
    3+30       1.5702      0.05  Q        |        |        |       V|
    3+35       1.5703      0.02  Q        |        |        |       V|
    3+40       1.5703      0.00  Q        |        |        |       V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD6100.out

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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

----------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

----------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
100-YEAR STORM
BY: JTS  DATE: 02-28-23
----------------------------------------------------------------------
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1464.00(Ft.)
Length along longest watercourse measured to centroid = 865.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.164 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.087 Hr.
Lag time = 5.21 Min.
25% of lag time = 1.30 Min.
40% of lag time = 2.09 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.42 | 20.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 3.15 | 44.95 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.420(In)
Area Averaged 100-Year Rainfall = 3.150(In)

Point rain (area averaged) = 3.150(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.150(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
   14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  74.5      0.309     0.000        0.309       1.000      0.309
                                                 Sum (F) =   0.309
Area averaged mean soil loss (F) (In/Hr) =  0.309
Minimum soil loss rate ((In/Hr)) =  0.154
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     0.50      0.189       (  0.309)       0.170        0.019
   2   0.17     0.60      0.227       (  0.309)       0.204        0.023
   3   0.25     0.60      0.227       (  0.309)       0.204        0.023
   4   0.33     0.60      0.227       (  0.309)       0.204        0.023
   5   0.42     0.60      0.227       (  0.309)       0.204        0.023
   6   0.50     0.70      0.265       (  0.309)       0.238        0.026
   7   0.58     0.70      0.265       (  0.309)       0.238        0.026
   8   0.67     0.70      0.265       (  0.309)       0.238        0.026
   9   0.75     0.70      0.265       (  0.309)       0.238        0.026
  10   0.83     0.70      0.265       (  0.309)       0.238        0.026
  11   0.92     0.70      0.265       (  0.309)       0.238        0.026
  12   1.00     0.80      0.302       (  0.309)       0.272        0.030
  13   1.08     0.80      0.302       (  0.309)       0.272        0.030
  14   1.17     0.80      0.302       (  0.309)       0.272        0.030
  15   1.25     0.80      0.302       (  0.309)       0.272        0.030
  16   1.33     0.80      0.302       (  0.309)       0.272        0.030
  17   1.42     0.80      0.302       (  0.309)       0.272        0.030
  18   1.50     0.80      0.302       (  0.309)       0.272        0.030
  19   1.58     0.80      0.302       (  0.309)       0.272        0.030
  20   1.67     0.80      0.302       (  0.309)       0.272        0.030
  21   1.75     0.80      0.302       (  0.309)       0.272        0.030
  22   1.83     0.80      0.302       (  0.309)       0.272        0.030
  23   1.92     0.80      0.302       (  0.309)       0.272        0.030
  24   2.00     0.90      0.340       (  0.309)       0.306        0.034
  25   2.08     0.80      0.302       (  0.309)       0.272        0.030
  26   2.17     0.90      0.340       (  0.309)       0.306        0.034
  27   2.25     0.90      0.340       (  0.309)       0.306        0.034
  28   2.33     0.90      0.340       (  0.309)       0.306        0.034
  29   2.42     0.90      0.340       (  0.309)       0.306        0.034
```

```
30   2.50     0.90      0.340       (  0.309)       0.306        0.034
31   2.58     0.90      0.340       (  0.309)       0.306        0.034
32   2.67     0.90      0.340       (  0.309)       0.306        0.034
33   2.75     1.00      0.378          0.309    (  0.340)        0.069
34   2.83     1.00      0.378          0.309    (  0.340)        0.069
35   2.92     1.00      0.378          0.309    (  0.340)        0.069
36   3.00     1.00      0.378          0.309    (  0.340)        0.069
37   3.08     1.00      0.378          0.309    (  0.340)        0.069
38   3.17     1.10      0.416          0.309    (  0.374)        0.107
39   3.25     1.10      0.416          0.309    (  0.374)        0.107
40   3.33     1.10      0.416          0.309    (  0.374)        0.107
41   3.42     1.20      0.454          0.309    (  0.408)        0.145
42   3.50     1.30      0.491          0.309    (  0.442)        0.182
43   3.58     1.40      0.529          0.309    (  0.476)        0.220
44   3.67     1.40      0.529          0.309    (  0.476)        0.220
45   3.75     1.50      0.567          0.309    (  0.510)        0.258
46   3.83     1.50      0.567          0.309    (  0.510)        0.258
47   3.92     1.60      0.605          0.309    (  0.544)        0.296
48   4.00     1.60      0.605          0.309    (  0.544)        0.296
49   4.08     1.70      0.643          0.309    (  0.578)        0.334
50   4.17     1.80      0.680          0.309    (  0.612)        0.371
51   4.25     1.90      0.718          0.309    (  0.646)        0.409
52   4.33     2.00      0.756          0.309    (  0.680)        0.447
53   4.42     2.10      0.794          0.309    (  0.714)        0.485
54   4.50     2.10      0.794          0.309    (  0.714)        0.485
55   4.58     2.20      0.832          0.309    (  0.748)        0.523
56   4.67     2.30      0.869          0.309    (  0.782)        0.560
57   4.75     2.40      0.907          0.309    (  0.816)        0.598
58   4.83     2.40      0.907          0.309    (  0.816)        0.598
59   4.92     2.50      0.945          0.309    (  0.850)        0.636
60   5.00     2.60      0.983          0.309    (  0.884)        0.674
61   5.08     3.10      1.172          0.309    (  1.055)        0.863
62   5.17     3.60      1.361          0.309    (  1.225)        1.052
63   5.25     3.90      1.474          0.309    (  1.327)        1.165
64   5.33     4.20      1.588          0.309    (  1.429)        1.279
65   5.42     4.70      1.777          0.309    (  1.599)        1.468
66   5.50     5.60      2.117          0.309    (  1.905)        1.808
67   5.58     1.90      0.718          0.309    (  0.646)        0.409
68   5.67     0.90      0.340       (  0.309)       0.306        0.034
69   5.75     0.60      0.227       (  0.309)       0.204        0.023
70   5.83     0.50      0.189       (  0.309)       0.170        0.019
71   5.92     0.30      0.113       (  0.309)       0.102        0.011
72   6.00     0.20      0.076       (  0.309)       0.068        0.008
              (Loss Rate Not Used)
   Sum =     100.0                                  Sum =    17.7
      Flood volume = Effective rainfall      1.48(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       1.8(Ac.Ft)
      Total soil loss =      1.67(In)
      Total soil loss =     1.988(Ac.Ft)
      Total rainfall =      3.15(In)
      Flood volume =       76550.4 Cubic Feet
      Total soil loss =       86611.9 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     20.325(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         6 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        7.5      15.0      22.5      30.0
-----------------------------------------------------------------------
  0+ 5       0.0003      0.05  Q         |         |         |         |
  0+10       0.0016      0.19  Q         |         |         |         |
  0+15       0.0034      0.26  Q         |         |         |         |
  0+20       0.0054      0.29  Q         |         |         |         |
  0+25       0.0075      0.30  Q         |         |         |         |
```

```
0+30       0.0097      0.32  Q         |         |         |         |
0+35       0.0122      0.36  Q         |         |         |         |
0+40       0.0147      0.37  Q         |         |         |         |
0+45       0.0173      0.37  Q         |         |         |         |
0+50       0.0199      0.38  Q         |         |         |         |
0+55       0.0225      0.38  Q         |         |         |         |
1+ 0       0.0252      0.39  Q         |         |         |         |
1+ 5       0.0280      0.42  Q         |         |         |         |
1+10       0.0310      0.43  Q         |         |         |         |
1+15       0.0339      0.43  Q         |         |         |         |
1+20       0.0369      0.43  Q         |         |         |         |
1+25       0.0399      0.43  Q         |         |         |         |
1+30       0.0429      0.43  Q         |         |         |         |
1+35       0.0459      0.43  QV        |         |         |         |
1+40       0.0489      0.44  QV        |         |         |         |
1+45       0.0519      0.44  QV        |         |         |         |
1+50       0.0549      0.44  QV        |         |         |         |
1+55       0.0578      0.44  QV        |         |         |         |
2+ 0       0.0609      0.44  QV        |         |         |         |
2+ 5       0.0641      0.46  QV        |         |         |         |
2+10       0.0672      0.45  QV        |         |         |         |
2+15       0.0705      0.47  QV        |         |         |         |
2+20       0.0738      0.48  QV        |         |         |         |
2+25       0.0771      0.49  QV        |         |         |         |
2+30       0.0805      0.49  QV        |         |         |         |
2+35       0.0839      0.49  QV        |         |         |         |
2+40       0.0872      0.49  QV        |         |         |         |
2+45       0.0912      0.58  Q V       |         |         |         |
2+50       0.0969      0.82  |QV       |         |         |         |
2+55       0.1031      0.90  |QV       |         |         |         |
3+ 0       0.1096      0.94  |QV       |         |         |         |
3+ 5       0.1162      0.96  |QV       |         |         |         |
3+10       0.1236      1.07  |QV       |         |         |         |
3+15       0.1329      1.34  |Q V      |         |         |         |
3+20       0.1428      1.44  |Q V      |         |         |         |
3+25       0.1536      1.58  | QV      |         |         |         |
3+30       0.1671      1.96  | QV      |         |         |         |
3+35       0.1838      2.42  |  QV     |         |         |         |
3+40       0.2032      2.82  |  QV     |         |         |         |
3+45       0.2244      3.07  |   QV    |         |         |         |
3+50       0.2480      3.42  |   QV    |         |         |         |
3+55       0.2731      3.65  |   Q V   |         |         |         |
4+ 0       0.3005      3.98  |    QV   |         |         |         |
4+ 5       0.3295      4.21  |    Q V  |         |         |         |
4+10       0.3614      4.63  |     Q V |         |         |         |
4+15       0.3966      5.12  |     Q  V|         |         |         |
4+20       0.4354      5.62  |      Q V|         |         |         |
4+25       0.4777      6.15  |       Q V         |         |         |
4+30       0.5230      6.58  |       Q |V        |         |         |
4+35       0.5702      6.86  |        Q| V       |         |         |
4+40       0.6206      7.31  |        Q|   V     |         |         |
4+45       0.6744      7.81  |         Q    V    |         |         |
4+50       0.7311      8.24  |         Q     V   |         |         |
4+55       0.7896      8.50  |         |Q     V  |         |         |
5+ 0       0.8513      8.95  |         |Q       V|         |         |
5+ 5       0.9190      9.84  |         |  Q      V         |         |
5+10       1.0002     11.79  |         |    Q    | V       |         |
5+15       1.0960     13.91  |         |       Q |   V     |         |
5+20       1.2040     15.68  |         |         Q      V  |         |
5+25       1.3249     17.55  |         |         |  Q      V         |
5+30       1.4649     20.32  |         |         |     Q   |  V      |
5+35       1.6014     19.82  |         |         |    Q    |    V    |
5+40       1.6729     10.38  |         |  Q      |         |      V  |
5+45       1.7079      5.07  |    Q    |         |         |      V  |
5+50       1.7284      2.98  |  Q      |         |         |       V |
5+55       1.7415      1.89  | Q       |         |         |       V |
6+ 0       1.7495      1.17  |Q        |         |         |       V |
6+ 5       1.7542      0.68  Q         |         |         |       V |
6+10       1.7565      0.33  Q         |         |         |       V |
```

```
    6+15       1.7571      0.08  Q        |         |         |        V|
    6+20       1.7572      0.02  Q        |         |         |        V|
    6+25       1.7573      0.01  Q        |         |         |        V|
    6+30       1.7573      0.01  Q        |         |         |        V|
    6+35       1.7574      0.00  Q        |         |         |        V|
    6+40       1.7574      0.00  Q        |         |         |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 02/28/23 File: EXHYD24100.out

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------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

------------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
EXISITNG CONDITIONS
100-YEAR STORM
BY: JTS  DATE: 02-28-23
------------------------------------------------------------------------
Drainage Area =  14.27(Ac.)  =  0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =  14.27(Ac.)  =  0.022 Sq. Mi.
Length along longest watercourse =  1464.00(Ft.)
Length along longest watercourse measured to centroid =  865.00(Ft.)
Length along longest watercourse =  0.277 Mi.
Length along longest watercourse measured to centroid =  0.164 Mi.
Difference in elevation =  39.00(Ft.)
Slope along watercourse =  140.6557 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =  0.087 Hr.
Lag time =  5.21 Min.
25% of lag time =  1.30 Min.
40% of lag time =  2.09 Min.
Unit time =  5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =  0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.65 | 37.82 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 6.95 | 99.18 |

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =  2.650(In)
Area Averaged 100-Year Rainfall =  6.950(In)

Point rain (area averaged) =  6.950(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =  6.950(In)

Sub-Area Data:
Area(Ac.)  Runoff Index  Impervious %

```
    14.270           74.50         0.000
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.5  74.5      0.309     0.000        0.309       1.000      0.309
                                                 Sum (F) =   0.309
Area averaged mean soil loss (F) (In/Hr) =  0.309
Minimum soil loss rate ((In/Hr)) =  0.154
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         95.911         17.950              2.581
    2   0.167        191.821         48.005              6.904
    3   0.250        287.732         16.296              2.344
    4   0.333        383.642          7.287              1.048
    5   0.417        479.553          4.148              0.597
    6   0.500        575.463          2.689              0.387
    7   0.583        671.374          1.732              0.249
    8   0.667        767.284          1.088              0.156
    9   0.750        863.195          0.807              0.116
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)        Max   |   Low         (In/Hr)
   1   0.08     0.07      0.056       (  0.548)       0.050        0.006
   2   0.17     0.07      0.056       (  0.545)       0.050        0.006
   3   0.25     0.07      0.056       (  0.543)       0.050        0.006
   4   0.33     0.10      0.083       (  0.541)       0.075        0.008
   5   0.42     0.10      0.083       (  0.539)       0.075        0.008
   6   0.50     0.10      0.083       (  0.537)       0.075        0.008
   7   0.58     0.10      0.083       (  0.535)       0.075        0.008
   8   0.67     0.10      0.083       (  0.533)       0.075        0.008
   9   0.75     0.10      0.083       (  0.531)       0.075        0.008
  10   0.83     0.13      0.111       (  0.529)       0.100        0.011
  11   0.92     0.13      0.111       (  0.527)       0.100        0.011
  12   1.00     0.13      0.111       (  0.525)       0.100        0.011
  13   1.08     0.10      0.083       (  0.522)       0.075        0.008
  14   1.17     0.10      0.083       (  0.520)       0.075        0.008
  15   1.25     0.10      0.083       (  0.518)       0.075        0.008
  16   1.33     0.10      0.083       (  0.516)       0.075        0.008
  17   1.42     0.10      0.083       (  0.514)       0.075        0.008
  18   1.50     0.10      0.083       (  0.512)       0.075        0.008
  19   1.58     0.10      0.083       (  0.510)       0.075        0.008
  20   1.67     0.10      0.083       (  0.508)       0.075        0.008
  21   1.75     0.10      0.083       (  0.506)       0.075        0.008
  22   1.83     0.13      0.111       (  0.504)       0.100        0.011
  23   1.92     0.13      0.111       (  0.502)       0.100        0.011
  24   2.00     0.13      0.111       (  0.500)       0.100        0.011
  25   2.08     0.13      0.111       (  0.498)       0.100        0.011
  26   2.17     0.13      0.111       (  0.496)       0.100        0.011
  27   2.25     0.13      0.111       (  0.494)       0.100        0.011
  28   2.33     0.13      0.111       (  0.492)       0.100        0.011
  29   2.42     0.13      0.111       (  0.490)       0.100        0.011
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 30 | 2.50 | 0.13 | 0.111 | ( | 0.488) | 0.100 | 0.011 |
| 31 | 2.58 | 0.17 | 0.139 | ( | 0.486) | 0.125 | 0.014 |
| 32 | 2.67 | 0.17 | 0.139 | ( | 0.484) | 0.125 | 0.014 |
| 33 | 2.75 | 0.17 | 0.139 | ( | 0.482) | 0.125 | 0.014 |
| 34 | 2.83 | 0.17 | 0.139 | ( | 0.480) | 0.125 | 0.014 |
| 35 | 2.92 | 0.17 | 0.139 | ( | 0.478) | 0.125 | 0.014 |
| 36 | 3.00 | 0.17 | 0.139 | ( | 0.476) | 0.125 | 0.014 |
| 37 | 3.08 | 0.17 | 0.139 | ( | 0.474) | 0.125 | 0.014 |
| 38 | 3.17 | 0.17 | 0.139 | ( | 0.472) | 0.125 | 0.014 |
| 39 | 3.25 | 0.17 | 0.139 | ( | 0.470) | 0.125 | 0.014 |
| 40 | 3.33 | 0.17 | 0.139 | ( | 0.468) | 0.125 | 0.014 |
| 41 | 3.42 | 0.17 | 0.139 | ( | 0.466) | 0.125 | 0.014 |
| 42 | 3.50 | 0.17 | 0.139 | ( | 0.464) | 0.125 | 0.014 |
| 43 | 3.58 | 0.17 | 0.139 | ( | 0.462) | 0.125 | 0.014 |
| 44 | 3.67 | 0.17 | 0.139 | ( | 0.460) | 0.125 | 0.014 |
| 45 | 3.75 | 0.17 | 0.139 | ( | 0.458) | 0.125 | 0.014 |
| 46 | 3.83 | 0.20 | 0.167 | ( | 0.456) | 0.150 | 0.017 |
| 47 | 3.92 | 0.20 | 0.167 | ( | 0.454) | 0.150 | 0.017 |
| 48 | 4.00 | 0.20 | 0.167 | ( | 0.453) | 0.150 | 0.017 |
| 49 | 4.08 | 0.20 | 0.167 | ( | 0.451) | 0.150 | 0.017 |
| 50 | 4.17 | 0.20 | 0.167 | ( | 0.449) | 0.150 | 0.017 |
| 51 | 4.25 | 0.20 | 0.167 | ( | 0.447) | 0.150 | 0.017 |
| 52 | 4.33 | 0.23 | 0.195 | ( | 0.445) | 0.175 | 0.019 |
| 53 | 4.42 | 0.23 | 0.195 | ( | 0.443) | 0.175 | 0.019 |
| 54 | 4.50 | 0.23 | 0.195 | ( | 0.441) | 0.175 | 0.019 |
| 55 | 4.58 | 0.23 | 0.195 | ( | 0.439) | 0.175 | 0.019 |
| 56 | 4.67 | 0.23 | 0.195 | ( | 0.437) | 0.175 | 0.019 |
| 57 | 4.75 | 0.23 | 0.195 | ( | 0.435) | 0.175 | 0.019 |
| 58 | 4.83 | 0.27 | 0.222 | ( | 0.434) | 0.200 | 0.022 |
| 59 | 4.92 | 0.27 | 0.222 | ( | 0.432) | 0.200 | 0.022 |
| 60 | 5.00 | 0.27 | 0.222 | ( | 0.430) | 0.200 | 0.022 |
| 61 | 5.08 | 0.20 | 0.167 | ( | 0.428) | 0.150 | 0.017 |
| 62 | 5.17 | 0.20 | 0.167 | ( | 0.426) | 0.150 | 0.017 |
| 63 | 5.25 | 0.20 | 0.167 | ( | 0.424) | 0.150 | 0.017 |
| 64 | 5.33 | 0.23 | 0.195 | ( | 0.422) | 0.175 | 0.019 |
| 65 | 5.42 | 0.23 | 0.195 | ( | 0.421) | 0.175 | 0.019 |
| 66 | 5.50 | 0.23 | 0.195 | ( | 0.419) | 0.175 | 0.019 |
| 67 | 5.58 | 0.27 | 0.222 | ( | 0.417) | 0.200 | 0.022 |
| 68 | 5.67 | 0.27 | 0.222 | ( | 0.415) | 0.200 | 0.022 |
| 69 | 5.75 | 0.27 | 0.222 | ( | 0.413) | 0.200 | 0.022 |
| 70 | 5.83 | 0.27 | 0.222 | ( | 0.411) | 0.200 | 0.022 |
| 71 | 5.92 | 0.27 | 0.222 | ( | 0.410) | 0.200 | 0.022 |
| 72 | 6.00 | 0.27 | 0.222 | ( | 0.408) | 0.200 | 0.022 |
| 73 | 6.08 | 0.30 | 0.250 | ( | 0.406) | 0.225 | 0.025 |
| 74 | 6.17 | 0.30 | 0.250 | ( | 0.404) | 0.225 | 0.025 |
| 75 | 6.25 | 0.30 | 0.250 | ( | 0.402) | 0.225 | 0.025 |
| 76 | 6.33 | 0.30 | 0.250 | ( | 0.401) | 0.225 | 0.025 |
| 77 | 6.42 | 0.30 | 0.250 | ( | 0.399) | 0.225 | 0.025 |
| 78 | 6.50 | 0.30 | 0.250 | ( | 0.397) | 0.225 | 0.025 |
| 79 | 6.58 | 0.33 | 0.278 | ( | 0.395) | 0.250 | 0.028 |
| 80 | 6.67 | 0.33 | 0.278 | ( | 0.393) | 0.250 | 0.028 |
| 81 | 6.75 | 0.33 | 0.278 | ( | 0.392) | 0.250 | 0.028 |
| 82 | 6.83 | 0.33 | 0.278 | ( | 0.390) | 0.250 | 0.028 |
| 83 | 6.92 | 0.33 | 0.278 | ( | 0.388) | 0.250 | 0.028 |
| 84 | 7.00 | 0.33 | 0.278 | ( | 0.386) | 0.250 | 0.028 |
| 85 | 7.08 | 0.33 | 0.278 | ( | 0.385) | 0.250 | 0.028 |
| 86 | 7.17 | 0.33 | 0.278 | ( | 0.383) | 0.250 | 0.028 |
| 87 | 7.25 | 0.33 | 0.278 | ( | 0.381) | 0.250 | 0.028 |
| 88 | 7.33 | 0.37 | 0.306 | ( | 0.379) | 0.275 | 0.031 |
| 89 | 7.42 | 0.37 | 0.306 | ( | 0.378) | 0.275 | 0.031 |
| 90 | 7.50 | 0.37 | 0.306 | ( | 0.376) | 0.275 | 0.031 |
| 91 | 7.58 | 0.40 | 0.334 | ( | 0.374) | 0.300 | 0.033 |
| 92 | 7.67 | 0.40 | 0.334 | ( | 0.372) | 0.300 | 0.033 |
| 93 | 7.75 | 0.40 | 0.334 | ( | 0.371) | 0.300 | 0.033 |
| 94 | 7.83 | 0.43 | 0.361 | ( | 0.369) | 0.325 | 0.036 |
| 95 | 7.92 | 0.43 | 0.361 | ( | 0.367) | 0.325 | 0.036 |
| 96 | 8.00 | 0.43 | 0.361 | ( | 0.366) | 0.325 | 0.036 |
| 97 | 8.08 | 0.50 | 0.417 | | 0.364 | ( 0.375) | 0.053 |
| 98 | 8.17 | 0.50 | 0.417 | | 0.362 | ( 0.375) | 0.055 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 99 | 8.25 | 0.50 | 0.417 | 0.360 | ( | 0.375) | 0.056 |
| 100 | 8.33 | 0.50 | 0.417 | 0.359 | ( | 0.375) | 0.058 |
| 101 | 8.42 | 0.50 | 0.417 | 0.357 | ( | 0.375) | 0.060 |
| 102 | 8.50 | 0.50 | 0.417 | 0.355 | ( | 0.375) | 0.062 |
| 103 | 8.58 | 0.53 | 0.445 | 0.354 | ( | 0.400) | 0.091 |
| 104 | 8.67 | 0.53 | 0.445 | 0.352 | ( | 0.400) | 0.093 |
| 105 | 8.75 | 0.53 | 0.445 | 0.350 | ( | 0.400) | 0.094 |
| 106 | 8.83 | 0.57 | 0.473 | 0.349 | ( | 0.425) | 0.124 |
| 107 | 8.92 | 0.57 | 0.473 | 0.347 | ( | 0.425) | 0.125 |
| 108 | 9.00 | 0.57 | 0.473 | 0.346 | ( | 0.425) | 0.127 |
| 109 | 9.08 | 0.63 | 0.528 | 0.344 | ( | 0.475) | 0.184 |
| 110 | 9.17 | 0.63 | 0.528 | 0.342 | ( | 0.475) | 0.186 |
| 111 | 9.25 | 0.63 | 0.528 | 0.341 | ( | 0.475) | 0.188 |
| 112 | 9.33 | 0.67 | 0.556 | 0.339 | ( | 0.500) | 0.217 |
| 113 | 9.42 | 0.67 | 0.556 | 0.337 | ( | 0.500) | 0.219 |
| 114 | 9.50 | 0.67 | 0.556 | 0.336 | ( | 0.500) | 0.220 |
| 115 | 9.58 | 0.70 | 0.584 | 0.334 | ( | 0.525) | 0.250 |
| 116 | 9.67 | 0.70 | 0.584 | 0.333 | ( | 0.525) | 0.251 |
| 117 | 9.75 | 0.70 | 0.584 | 0.331 | ( | 0.525) | 0.253 |
| 118 | 9.83 | 0.73 | 0.612 | 0.329 | ( | 0.550) | 0.282 |
| 119 | 9.92 | 0.73 | 0.612 | 0.328 | ( | 0.550) | 0.284 |
| 120 | 10.00 | 0.73 | 0.612 | 0.326 | ( | 0.550) | 0.285 |
| 121 | 10.08 | 0.50 | 0.417 | 0.325 | ( | 0.375) | 0.092 |
| 122 | 10.17 | 0.50 | 0.417 | 0.323 | ( | 0.375) | 0.094 |
| 123 | 10.25 | 0.50 | 0.417 | 0.321 | ( | 0.375) | 0.096 |
| 124 | 10.33 | 0.50 | 0.417 | 0.320 | ( | 0.375) | 0.097 |
| 125 | 10.42 | 0.50 | 0.417 | 0.318 | ( | 0.375) | 0.099 |
| 126 | 10.50 | 0.50 | 0.417 | 0.317 | ( | 0.375) | 0.100 |
| 127 | 10.58 | 0.67 | 0.556 | 0.315 | ( | 0.500) | 0.241 |
| 128 | 10.67 | 0.67 | 0.556 | 0.314 | ( | 0.500) | 0.242 |
| 129 | 10.75 | 0.67 | 0.556 | 0.312 | ( | 0.500) | 0.244 |
| 130 | 10.83 | 0.67 | 0.556 | 0.311 | ( | 0.500) | 0.245 |
| 131 | 10.92 | 0.67 | 0.556 | 0.309 | ( | 0.500) | 0.247 |
| 132 | 11.00 | 0.67 | 0.556 | 0.308 | ( | 0.500) | 0.248 |
| 133 | 11.08 | 0.63 | 0.528 | 0.306 | ( | 0.475) | 0.222 |
| 134 | 11.17 | 0.63 | 0.528 | 0.305 | ( | 0.475) | 0.224 |
| 135 | 11.25 | 0.63 | 0.528 | 0.303 | ( | 0.475) | 0.225 |
| 136 | 11.33 | 0.63 | 0.528 | 0.302 | ( | 0.475) | 0.227 |
| 137 | 11.42 | 0.63 | 0.528 | 0.300 | ( | 0.475) | 0.228 |
| 138 | 11.50 | 0.63 | 0.528 | 0.299 | ( | 0.475) | 0.230 |
| 139 | 11.58 | 0.57 | 0.473 | 0.297 | ( | 0.425) | 0.175 |
| 140 | 11.67 | 0.57 | 0.473 | 0.296 | ( | 0.425) | 0.177 |
| 141 | 11.75 | 0.57 | 0.473 | 0.294 | ( | 0.425) | 0.178 |
| 142 | 11.83 | 0.60 | 0.500 | 0.293 | ( | 0.450) | 0.208 |
| 143 | 11.92 | 0.60 | 0.500 | 0.291 | ( | 0.450) | 0.209 |
| 144 | 12.00 | 0.60 | 0.500 | 0.290 | ( | 0.450) | 0.211 |
| 145 | 12.08 | 0.83 | 0.695 | 0.288 | ( | 0.625) | 0.407 |
| 146 | 12.17 | 0.83 | 0.695 | 0.287 | ( | 0.625) | 0.408 |
| 147 | 12.25 | 0.83 | 0.695 | 0.285 | ( | 0.625) | 0.410 |
| 148 | 12.33 | 0.87 | 0.723 | 0.284 | ( | 0.651) | 0.439 |
| 149 | 12.42 | 0.87 | 0.723 | 0.283 | ( | 0.651) | 0.440 |
| 150 | 12.50 | 0.87 | 0.723 | 0.281 | ( | 0.651) | 0.442 |
| 151 | 12.58 | 0.93 | 0.778 | 0.280 | ( | 0.701) | 0.499 |
| 152 | 12.67 | 0.93 | 0.778 | 0.278 | ( | 0.701) | 0.500 |
| 153 | 12.75 | 0.93 | 0.778 | 0.277 | ( | 0.701) | 0.501 |
| 154 | 12.83 | 0.97 | 0.806 | 0.276 | ( | 0.726) | 0.531 |
| 155 | 12.92 | 0.97 | 0.806 | 0.274 | ( | 0.726) | 0.532 |
| 156 | 13.00 | 0.97 | 0.806 | 0.273 | ( | 0.726) | 0.533 |
| 157 | 13.08 | 1.13 | 0.945 | 0.271 | ( | 0.851) | 0.674 |
| 158 | 13.17 | 1.13 | 0.945 | 0.270 | ( | 0.851) | 0.675 |
| 159 | 13.25 | 1.13 | 0.945 | 0.269 | ( | 0.851) | 0.677 |
| 160 | 13.33 | 1.13 | 0.945 | 0.267 | ( | 0.851) | 0.678 |
| 161 | 13.42 | 1.13 | 0.945 | 0.266 | ( | 0.851) | 0.679 |
| 162 | 13.50 | 1.13 | 0.945 | 0.265 | ( | 0.851) | 0.681 |
| 163 | 13.58 | 0.77 | 0.639 | 0.263 | ( | 0.575) | 0.376 |
| 164 | 13.67 | 0.77 | 0.639 | 0.262 | ( | 0.575) | 0.377 |
| 165 | 13.75 | 0.77 | 0.639 | 0.261 | ( | 0.575) | 0.379 |
| 166 | 13.83 | 0.77 | 0.639 | 0.259 | ( | 0.575) | 0.380 |
| 167 | 13.92 | 0.77 | 0.639 | 0.258 | ( | 0.575) | 0.381 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 168 | 14.00 | 0.77 | 0.639 | | 0.257 | ( 0.575) | 0.383 |
| 169 | 14.08 | 0.90 | 0.751 | | 0.255 | ( 0.676) | 0.495 |
| 170 | 14.17 | 0.90 | 0.751 | | 0.254 | ( 0.676) | 0.497 |
| 171 | 14.25 | 0.90 | 0.751 | | 0.253 | ( 0.676) | 0.498 |
| 172 | 14.33 | 0.87 | 0.723 | | 0.251 | ( 0.651) | 0.471 |
| 173 | 14.42 | 0.87 | 0.723 | | 0.250 | ( 0.651) | 0.473 |
| 174 | 14.50 | 0.87 | 0.723 | | 0.249 | ( 0.651) | 0.474 |
| 175 | 14.58 | 0.87 | 0.723 | | 0.248 | ( 0.651) | 0.475 |
| 176 | 14.67 | 0.87 | 0.723 | | 0.246 | ( 0.651) | 0.477 |
| 177 | 14.75 | 0.87 | 0.723 | | 0.245 | ( 0.651) | 0.478 |
| 178 | 14.83 | 0.83 | 0.695 | | 0.244 | ( 0.625) | 0.451 |
| 179 | 14.92 | 0.83 | 0.695 | | 0.243 | ( 0.625) | 0.452 |
| 180 | 15.00 | 0.83 | 0.695 | | 0.241 | ( 0.625) | 0.454 |
| 181 | 15.08 | 0.80 | 0.667 | | 0.240 | ( 0.600) | 0.427 |
| 182 | 15.17 | 0.80 | 0.667 | | 0.239 | ( 0.600) | 0.428 |
| 183 | 15.25 | 0.80 | 0.667 | | 0.238 | ( 0.600) | 0.430 |
| 184 | 15.33 | 0.77 | 0.639 | | 0.236 | ( 0.575) | 0.403 |
| 185 | 15.42 | 0.77 | 0.639 | | 0.235 | ( 0.575) | 0.404 |
| 186 | 15.50 | 0.77 | 0.639 | | 0.234 | ( 0.575) | 0.405 |
| 187 | 15.58 | 0.63 | 0.528 | | 0.233 | ( 0.475) | 0.295 |
| 188 | 15.67 | 0.63 | 0.528 | | 0.232 | ( 0.475) | 0.297 |
| 189 | 15.75 | 0.63 | 0.528 | | 0.230 | ( 0.475) | 0.298 |
| 190 | 15.83 | 0.63 | 0.528 | | 0.229 | ( 0.475) | 0.299 |
| 191 | 15.92 | 0.63 | 0.528 | | 0.228 | ( 0.475) | 0.300 |
| 192 | 16.00 | 0.63 | 0.528 | | 0.227 | ( 0.475) | 0.301 |
| 193 | 16.08 | 0.13 | 0.111 | ( 0.226) | | 0.100 | 0.011 |
| 194 | 16.17 | 0.13 | 0.111 | ( 0.225) | | 0.100 | 0.011 |
| 195 | 16.25 | 0.13 | 0.111 | ( 0.223) | | 0.100 | 0.011 |
| 196 | 16.33 | 0.13 | 0.111 | ( 0.222) | | 0.100 | 0.011 |
| 197 | 16.42 | 0.13 | 0.111 | ( 0.221) | | 0.100 | 0.011 |
| 198 | 16.50 | 0.13 | 0.111 | ( 0.220) | | 0.100 | 0.011 |
| 199 | 16.58 | 0.10 | 0.083 | ( 0.219) | | 0.075 | 0.008 |
| 200 | 16.67 | 0.10 | 0.083 | ( 0.218) | | 0.075 | 0.008 |
| 201 | 16.75 | 0.10 | 0.083 | ( 0.217) | | 0.075 | 0.008 |
| 202 | 16.83 | 0.10 | 0.083 | ( 0.216) | | 0.075 | 0.008 |
| 203 | 16.92 | 0.10 | 0.083 | ( 0.214) | | 0.075 | 0.008 |
| 204 | 17.00 | 0.10 | 0.083 | ( 0.213) | | 0.075 | 0.008 |
| 205 | 17.08 | 0.17 | 0.139 | ( 0.212) | | 0.125 | 0.014 |
| 206 | 17.17 | 0.17 | 0.139 | ( 0.211) | | 0.125 | 0.014 |
| 207 | 17.25 | 0.17 | 0.139 | ( 0.210) | | 0.125 | 0.014 |
| 208 | 17.33 | 0.17 | 0.139 | ( 0.209) | | 0.125 | 0.014 |
| 209 | 17.42 | 0.17 | 0.139 | ( 0.208) | | 0.125 | 0.014 |
| 210 | 17.50 | 0.17 | 0.139 | ( 0.207) | | 0.125 | 0.014 |
| 211 | 17.58 | 0.17 | 0.139 | ( 0.206) | | 0.125 | 0.014 |
| 212 | 17.67 | 0.17 | 0.139 | ( 0.205) | | 0.125 | 0.014 |
| 213 | 17.75 | 0.17 | 0.139 | ( 0.204) | | 0.125 | 0.014 |
| 214 | 17.83 | 0.13 | 0.111 | ( 0.203) | | 0.100 | 0.011 |
| 215 | 17.92 | 0.13 | 0.111 | ( 0.202) | | 0.100 | 0.011 |
| 216 | 18.00 | 0.13 | 0.111 | ( 0.201) | | 0.100 | 0.011 |
| 217 | 18.08 | 0.13 | 0.111 | ( 0.200) | | 0.100 | 0.011 |
| 218 | 18.17 | 0.13 | 0.111 | ( 0.199) | | 0.100 | 0.011 |
| 219 | 18.25 | 0.13 | 0.111 | ( 0.198) | | 0.100 | 0.011 |
| 220 | 18.33 | 0.13 | 0.111 | ( 0.197) | | 0.100 | 0.011 |
| 221 | 18.42 | 0.13 | 0.111 | ( 0.196) | | 0.100 | 0.011 |
| 222 | 18.50 | 0.13 | 0.111 | ( 0.195) | | 0.100 | 0.011 |
| 223 | 18.58 | 0.10 | 0.083 | ( 0.194) | | 0.075 | 0.008 |
| 224 | 18.67 | 0.10 | 0.083 | ( 0.193) | | 0.075 | 0.008 |
| 225 | 18.75 | 0.10 | 0.083 | ( 0.192) | | 0.075 | 0.008 |
| 226 | 18.83 | 0.07 | 0.056 | ( 0.191) | | 0.050 | 0.006 |
| 227 | 18.92 | 0.07 | 0.056 | ( 0.190) | | 0.050 | 0.006 |
| 228 | 19.00 | 0.07 | 0.056 | ( 0.190) | | 0.050 | 0.006 |
| 229 | 19.08 | 0.10 | 0.083 | ( 0.189) | | 0.075 | 0.008 |
| 230 | 19.17 | 0.10 | 0.083 | ( 0.188) | | 0.075 | 0.008 |
| 231 | 19.25 | 0.10 | 0.083 | ( 0.187) | | 0.075 | 0.008 |
| 232 | 19.33 | 0.13 | 0.111 | ( 0.186) | | 0.100 | 0.011 |
| 233 | 19.42 | 0.13 | 0.111 | ( 0.185) | | 0.100 | 0.011 |
| 234 | 19.50 | 0.13 | 0.111 | ( 0.184) | | 0.100 | 0.011 |
| 235 | 19.58 | 0.10 | 0.083 | ( 0.183) | | 0.075 | 0.008 |
| 236 | 19.67 | 0.10 | 0.083 | ( 0.183) | | 0.075 | 0.008 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 237 | 19.75 | 0.10 | 0.083 | ( 0.182) | 0.075 | 0.008 |
| 238 | 19.83 | 0.07 | 0.056 | ( 0.181) | 0.050 | 0.006 |
| 239 | 19.92 | 0.07 | 0.056 | ( 0.180) | 0.050 | 0.006 |
| 240 | 20.00 | 0.07 | 0.056 | ( 0.179) | 0.050 | 0.006 |
| 241 | 20.08 | 0.10 | 0.083 | ( 0.179) | 0.075 | 0.008 |
| 242 | 20.17 | 0.10 | 0.083 | ( 0.178) | 0.075 | 0.008 |
| 243 | 20.25 | 0.10 | 0.083 | ( 0.177) | 0.075 | 0.008 |
| 244 | 20.33 | 0.10 | 0.083 | ( 0.176) | 0.075 | 0.008 |
| 245 | 20.42 | 0.10 | 0.083 | ( 0.176) | 0.075 | 0.008 |
| 246 | 20.50 | 0.10 | 0.083 | ( 0.175) | 0.075 | 0.008 |
| 247 | 20.58 | 0.10 | 0.083 | ( 0.174) | 0.075 | 0.008 |
| 248 | 20.67 | 0.10 | 0.083 | ( 0.173) | 0.075 | 0.008 |
| 249 | 20.75 | 0.10 | 0.083 | ( 0.173) | 0.075 | 0.008 |
| 250 | 20.83 | 0.07 | 0.056 | ( 0.172) | 0.050 | 0.006 |
| 251 | 20.92 | 0.07 | 0.056 | ( 0.171) | 0.050 | 0.006 |
| 252 | 21.00 | 0.07 | 0.056 | ( 0.170) | 0.050 | 0.006 |
| 253 | 21.08 | 0.10 | 0.083 | ( 0.170) | 0.075 | 0.008 |
| 254 | 21.17 | 0.10 | 0.083 | ( 0.169) | 0.075 | 0.008 |
| 255 | 21.25 | 0.10 | 0.083 | ( 0.168) | 0.075 | 0.008 |
| 256 | 21.33 | 0.07 | 0.056 | ( 0.168) | 0.050 | 0.006 |
| 257 | 21.42 | 0.07 | 0.056 | ( 0.167) | 0.050 | 0.006 |
| 258 | 21.50 | 0.07 | 0.056 | ( 0.167) | 0.050 | 0.006 |
| 259 | 21.58 | 0.10 | 0.083 | ( 0.166) | 0.075 | 0.008 |
| 260 | 21.67 | 0.10 | 0.083 | ( 0.165) | 0.075 | 0.008 |
| 261 | 21.75 | 0.10 | 0.083 | ( 0.165) | 0.075 | 0.008 |
| 262 | 21.83 | 0.07 | 0.056 | ( 0.164) | 0.050 | 0.006 |
| 263 | 21.92 | 0.07 | 0.056 | ( 0.164) | 0.050 | 0.006 |
| 264 | 22.00 | 0.07 | 0.056 | ( 0.163) | 0.050 | 0.006 |
| 265 | 22.08 | 0.10 | 0.083 | ( 0.163) | 0.075 | 0.008 |
| 266 | 22.17 | 0.10 | 0.083 | ( 0.162) | 0.075 | 0.008 |
| 267 | 22.25 | 0.10 | 0.083 | ( 0.162) | 0.075 | 0.008 |
| 268 | 22.33 | 0.07 | 0.056 | ( 0.161) | 0.050 | 0.006 |
| 269 | 22.42 | 0.07 | 0.056 | ( 0.161) | 0.050 | 0.006 |
| 270 | 22.50 | 0.07 | 0.056 | ( 0.160) | 0.050 | 0.006 |
| 271 | 22.58 | 0.07 | 0.056 | ( 0.160) | 0.050 | 0.006 |
| 272 | 22.67 | 0.07 | 0.056 | ( 0.159) | 0.050 | 0.006 |
| 273 | 22.75 | 0.07 | 0.056 | ( 0.159) | 0.050 | 0.006 |
| 274 | 22.83 | 0.07 | 0.056 | ( 0.158) | 0.050 | 0.006 |
| 275 | 22.92 | 0.07 | 0.056 | ( 0.158) | 0.050 | 0.006 |
| 276 | 23.00 | 0.07 | 0.056 | ( 0.157) | 0.050 | 0.006 |
| 277 | 23.08 | 0.07 | 0.056 | ( 0.157) | 0.050 | 0.006 |
| 278 | 23.17 | 0.07 | 0.056 | ( 0.157) | 0.050 | 0.006 |
| 279 | 23.25 | 0.07 | 0.056 | ( 0.156) | 0.050 | 0.006 |
| 280 | 23.33 | 0.07 | 0.056 | ( 0.156) | 0.050 | 0.006 |
| 281 | 23.42 | 0.07 | 0.056 | ( 0.156) | 0.050 | 0.006 |
| 282 | 23.50 | 0.07 | 0.056 | ( 0.156) | 0.050 | 0.006 |
| 283 | 23.58 | 0.07 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 284 | 23.67 | 0.07 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 285 | 23.75 | 0.07 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 286 | 23.83 | 0.07 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 287 | 23.92 | 0.07 | 0.056 | ( 0.155) | 0.050 | 0.006 |
| 288 | 24.00 | 0.07 | 0.056 | ( 0.154) | 0.050 | 0.006 |

(Loss Rate Not Used)

Sum = 100.0 Sum = 32.8

Flood volume = Effective rainfall 2.74(In)
times area 14.3(Ac.)/[(In)/(Ft.)] = 3.3(Ac.Ft)
Total soil loss = 4.21(In)
Total soil loss = 5.009(Ac.Ft)
Total rainfall = 6.95(In)
Flood volume = 141799.7 Cubic Feet
Total soil loss = 218200.9 Cubic Feet

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Peak flow rate of this hydrograph = 9.690(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.01 | Q | | | | |
| 0+10 | 0.0005 | 0.05 | Q | | | | |
| 0+15 | 0.0009 | 0.07 | Q | | | | |
| 0+20 | 0.0015 | 0.08 | Q | | | | |
| 0+25 | 0.0022 | 0.10 | Q | | | | |
| 0+30 | 0.0029 | 0.11 | Q | | | | |
| 0+35 | 0.0037 | 0.11 | Q | | | | |
| 0+40 | 0.0045 | 0.12 | Q | | | | |
| 0+45 | 0.0053 | 0.12 | Q | | | | |
| 0+50 | 0.0062 | 0.13 | Q | | | | |
| 0+55 | 0.0072 | 0.15 | Q | | | | |
| 1+ 0 | 0.0083 | 0.15 | Q | | | | |
| 1+ 5 | 0.0093 | 0.15 | Q | | | | |
| 1+10 | 0.0102 | 0.13 | Q | | | | |
| 1+15 | 0.0110 | 0.13 | Q | | | | |
| 1+20 | 0.0119 | 0.12 | Q | | | | |
| 1+25 | 0.0127 | 0.12 | Q | | | | |
| 1+30 | 0.0136 | 0.12 | Q | | | | |
| 1+35 | 0.0144 | 0.12 | Q | | | | |
| 1+40 | 0.0152 | 0.12 | Q | | | | |
| 1+45 | 0.0161 | 0.12 | Q | | | | |
| 1+50 | 0.0169 | 0.13 | Q | | | | |
| 1+55 | 0.0179 | 0.15 | Q | | | | |
| 2+ 0 | 0.0190 | 0.15 | Q | | | | |
| 2+ 5 | 0.0201 | 0.16 | Q | | | | |
| 2+10 | 0.0212 | 0.16 | Q | | | | |
| 2+15 | 0.0222 | 0.16 | Q | | | | |
| 2+20 | 0.0233 | 0.16 | Q | | | | |
| 2+25 | 0.0244 | 0.16 | Q | | | | |
| 2+30 | 0.0255 | 0.16 | Q | | | | |
| 2+35 | 0.0267 | 0.17 | Q | | | | |
| 2+40 | 0.0280 | 0.19 | Q | | | | |
| 2+45 | 0.0293 | 0.19 | Q | | | | |
| 2+50 | 0.0307 | 0.20 | Q | | | | |
| 2+55 | 0.0320 | 0.20 | Q | | | | |
| 3+ 0 | 0.0334 | 0.20 | Q | | | | |
| 3+ 5 | 0.0348 | 0.20 | Q | | | | |
| 3+10 | 0.0361 | 0.20 | Q | | | | |
| 3+15 | 0.0375 | 0.20 | Q | | | | |
| 3+20 | 0.0389 | 0.20 | Q | | | | |
| 3+25 | 0.0403 | 0.20 | Q | | | | |
| 3+30 | 0.0416 | 0.20 | Q | | | | |
| 3+35 | 0.0430 | 0.20 | Q | | | | |
| 3+40 | 0.0444 | 0.20 | Q | | | | |
| 3+45 | 0.0458 | 0.20 | Q | | | | |
| 3+50 | 0.0472 | 0.21 | Q | | | | |
| 3+55 | 0.0488 | 0.23 | Q | | | | |
| 4+ 0 | 0.0504 | 0.23 | Q | | | | |
| 4+ 5 | 0.0520 | 0.24 | Q | | | | |
| 4+10 | 0.0536 | 0.24 | Q | | | | |
| 4+15 | 0.0553 | 0.24 | Q | | | | |
| 4+20 | 0.0570 | 0.25 | Q | | | | |
| 4+25 | 0.0588 | 0.27 | VQ | | | | |
| 4+30 | 0.0607 | 0.27 | VQ | | | | |
| 4+35 | 0.0626 | 0.28 | VQ | | | | |
| 4+40 | 0.0645 | 0.28 | VQ | | | | |
| 4+45 | 0.0664 | 0.28 | VQ | | | | |
| 4+50 | 0.0684 | 0.29 | VQ | | | | |
| 4+55 | 0.0705 | 0.31 | VQ | | | | |
| 5+ 0 | 0.0726 | 0.31 | VQ | | | | |
| 5+ 5 | 0.0747 | 0.30 | VQ | | | | |
| 5+10 | 0.0765 | 0.26 | VQ | | | | |
| 5+15 | 0.0783 | 0.25 | VQ | | | | |
| 5+20 | 0.0800 | 0.25 | VQ | | | | |
| 5+25 | 0.0819 | 0.27 | \|Q | | | | |

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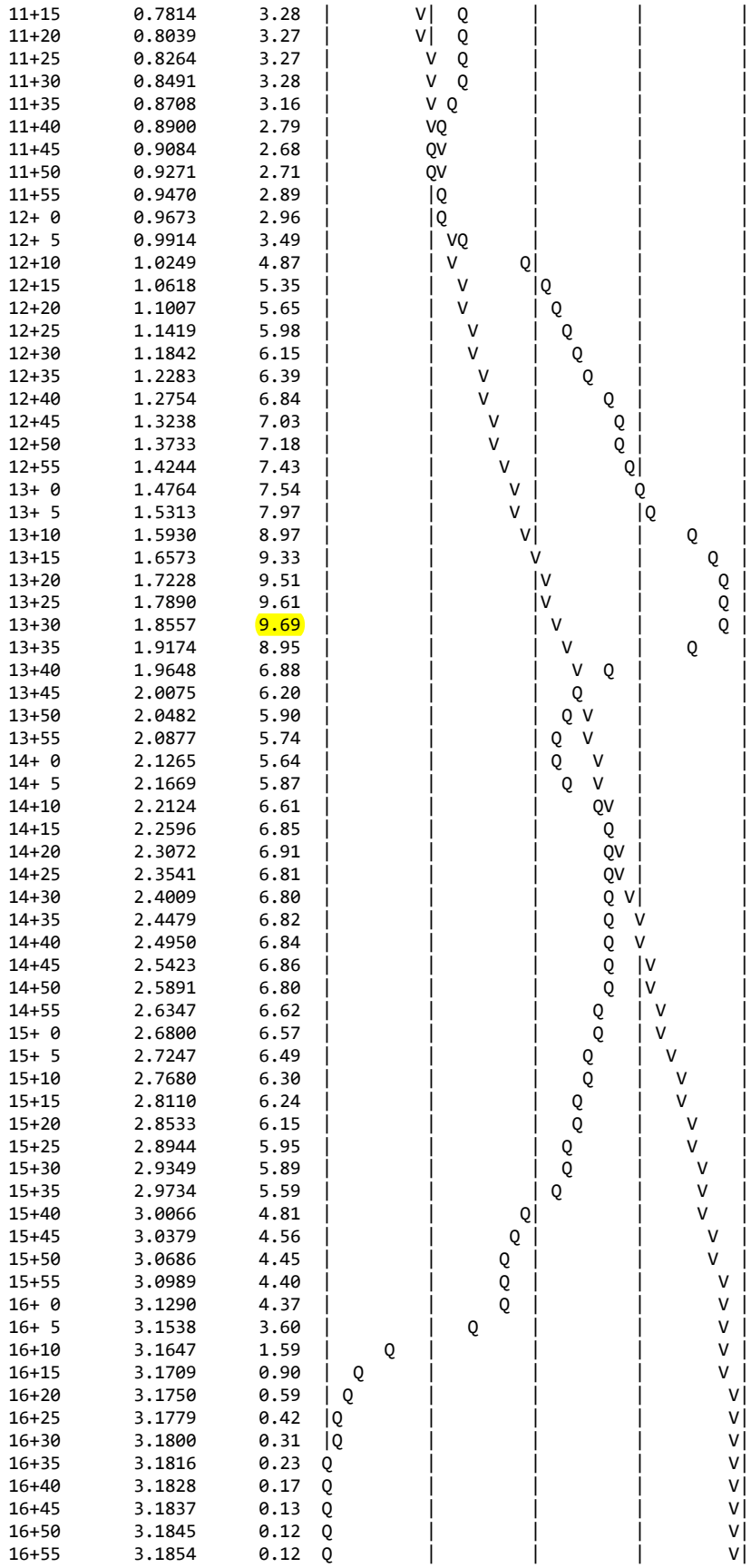
 5+30      0.0838     0.28  |Q       |        |        |        |
 5+35      0.0858     0.28  |Q       |        |        |        |
 5+40      0.0879     0.30  |Q       |        |        |        |
 5+45      0.0900     0.31  |Q       |        |        |        |
 5+50      0.0922     0.32  |Q       |        |        |        |
 5+55      0.0944     0.32  |Q       |        |        |        |
 6+ 0      0.0965     0.32  |Q       |        |        |        |
 6+ 5      0.0988     0.33  |Q       |        |        |        |
 6+10      0.1012     0.35  |Q       |        |        |        |
 6+15      0.1036     0.35  |Q       |        |        |        |
 6+20      0.1061     0.36  |Q       |        |        |        |
 6+25      0.1085     0.36  |Q       |        |        |        |
 6+30      0.1110     0.36  |Q       |        |        |        |
 6+35      0.1135     0.37  |Q       |        |        |        |
 6+40      0.1162     0.39  |Q       |        |        |        |
 6+45      0.1189     0.39  |Q       |        |        |        |
 6+50      0.1216     0.40  |Q       |        |        |        |
 6+55      0.1243     0.40  |Q       |        |        |        |
 7+ 0      0.1271     0.40  |Q       |        |        |        |
 7+ 5      0.1298     0.40  |Q       |        |        |        |
 7+10      0.1326     0.40  |Q       |        |        |        |
 7+15      0.1353     0.40  |Q       |        |        |        |
 7+20      0.1382     0.41  |Q       |        |        |        |
 7+25      0.1411     0.43  |Q       |        |        |        |
 7+30      0.1441     0.43  |Q       |        |        |        |
 7+35      0.1471     0.44  |Q       |        |        |        |
 7+40      0.1503     0.46  |Q       |        |        |        |
 7+45      0.1536     0.47  |Q       |        |        |        |
 7+50      0.1569     0.48  |Q       |        |        |        |
 7+55      0.1603     0.50  |VQ      |        |        |        |
 8+ 0      0.1639     0.51  | Q      |        |        |        |
 8+ 5      0.1677     0.56  | Q      |        |        |        |
 8+10      0.1724     0.68  | Q      |        |        |        |
 8+15      0.1775     0.74  | Q      |        |        |        |
 8+20      0.1829     0.78  | VQ     |        |        |        |
 8+25      0.1885     0.81  | VQ     |        |        |        |
 8+30      0.1942     0.84  | VQ     |        |        |        |
 8+35      0.2007     0.94  | VQ     |        |        |        |
 8+40      0.2087     1.16  | V Q    |        |        |        |
 8+45      0.2173     1.25  | V Q    |        |        |        |
 8+50      0.2267     1.37  | V  Q   |        |        |        |
 8+55      0.2378     1.61  | V   Q  |        |        |        |
 9+ 0      0.2496     1.71  |  V  Q  |        |        |        |
 9+ 5      0.2627     1.91  |  V   Q |        |        |        |
 9+10      0.2788     2.34  |  V    Q|        |        |        |
 9+15      0.2961     2.51  |  V     Q        |        |        |
 9+20      0.3144     2.67  |  V     Q        |        |        |
 9+25      0.3345     2.92  |   V    |Q       |        |        |
 9+30      0.3554     3.03  |   V    | Q      |        |        |
 9+35      0.3772     3.17  |   V    | Q      |        |        |
 9+40      0.4007     3.41  |   V    |  Q     |        |        |
 9+45      0.4249     3.52  |    V   |   Q    |        |        |
 9+50      0.4501     3.65  |    V   |   Q    |        |        |
 9+55      0.4768     3.88  |    V   |    Q   |        |        |
10+ 0      0.5042     3.99  |     V  |    Q   |        |        |
10+ 5      0.5286     3.54  |     V  |   Q    |        |        |
10+10      0.5441     2.24  |     V Q|        |        |        |
10+15      0.5566     1.82  |     VQ |        |        |        |
10+20      0.5679     1.65  |     Q  |        |        |        |
10+25      0.5787     1.56  |     QV |        |        |        |
10+30      0.5891     1.51  |     QV |        |        |        |
10+35      0.6017     1.84  |      Q |        |        |        |
10+40      0.6210     2.79  |      V |Q       |        |        |
10+45      0.6424     3.12  |      V | Q      |        |        |
10+50      0.6651     3.29  |       V|  Q     |        |        |
10+55      0.6884     3.39  |       V|  Q     |        |        |
11+ 0      0.7123     3.47  |       V|  Q     |        |        |
11+ 5      0.7361     3.45  |        V|  Q     |        |        |
11+10      0.7588     3.30  |        V|  Q     |        |        |
```



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+ 0 | 3.1862 | 0.12 | Q | \| | \| | \| | V\| |
| 17+ 5 | 3.1871 | 0.14 | Q | \| | \| | \| | V\| |
| 17+10 | 3.1883 | 0.17 | Q | \| | \| | \| | V\| |
| 17+15 | 3.1896 | 0.19 | Q | \| | \| | \| | V\| |
| 17+20 | 3.1909 | 0.19 | Q | \| | \| | \| | V\| |
| 17+25 | 3.1923 | 0.19 | Q | \| | \| | \| | V\| |
| 17+30 | 3.1936 | 0.20 | Q | \| | \| | \| | V\| |
| 17+35 | 3.1950 | 0.20 | Q | \| | \| | \| | V\| |
| 17+40 | 3.1964 | 0.20 | Q | \| | \| | \| | V\| |
| 17+45 | 3.1977 | 0.20 | Q | \| | \| | \| | V\| |
| 17+50 | 3.1991 | 0.19 | Q | \| | \| | \| | V\| |
| 17+55 | 3.2003 | 0.17 | Q | \| | \| | \| | V\| |
| 18+ 0 | 3.2014 | 0.17 | Q | \| | \| | \| | V\| |
| 18+ 5 | 3.2025 | 0.16 | Q | \| | \| | \| | V\| |
| 18+10 | 3.2037 | 0.16 | Q | \| | \| | \| | V\| |
| 18+15 | 3.2048 | 0.16 | Q | \| | \| | \| | V\| |
| 18+20 | 3.2059 | 0.16 | Q | \| | \| | \| | V\| |
| 18+25 | 3.2070 | 0.16 | Q | \| | \| | \| | V\| |
| 18+30 | 3.2081 | 0.16 | Q | \| | \| | \| | V\| |
| 18+35 | 3.2091 | 0.15 | Q | \| | \| | \| | V\| |
| 18+40 | 3.2101 | 0.13 | Q | \| | \| | \| | V\| |
| 18+45 | 3.2109 | 0.13 | Q | \| | \| | \| | V\| |
| 18+50 | 3.2117 | 0.12 | Q | \| | \| | \| | V\| |
| 18+55 | 3.2124 | 0.10 | Q | \| | \| | \| | V\| |
| 19+ 0 | 3.2130 | 0.09 | Q | \| | \| | \| | V\| |
| 19+ 5 | 3.2137 | 0.09 | Q | \| | \| | \| | V\| |
| 19+10 | 3.2144 | 0.11 | Q | \| | \| | \| | V\| |
| 19+15 | 3.2152 | 0.11 | Q | \| | \| | \| | V\| |
| 19+20 | 3.2160 | 0.12 | Q | \| | \| | \| | V\| |
| 19+25 | 3.2170 | 0.14 | Q | \| | \| | \| | V\| |
| 19+30 | 3.2181 | 0.15 | Q | \| | \| | \| | V\| |
| 19+35 | 3.2191 | 0.15 | Q | \| | \| | \| | V\| |
| 19+40 | 3.2200 | 0.13 | Q | \| | \| | \| | V\| |
| 19+45 | 3.2209 | 0.13 | Q | \| | \| | \| | V\| |
| 19+50 | 3.2217 | 0.12 | Q | \| | \| | \| | V\| |
| 19+55 | 3.2223 | 0.10 | Q | \| | \| | \| | V\| |
| 20+ 0 | 3.2229 | 0.09 | Q | \| | \| | \| | V\| |
| 20+ 5 | 3.2236 | 0.09 | Q | \| | \| | \| | V\| |
| 20+10 | 3.2243 | 0.11 | Q | \| | \| | \| | V\| |
| 20+15 | 3.2251 | 0.11 | Q | \| | \| | \| | V\| |
| 20+20 | 3.2259 | 0.12 | Q | \| | \| | \| | V\| |
| 20+25 | 3.2267 | 0.12 | Q | \| | \| | \| | V\| |
| 20+30 | 3.2275 | 0.12 | Q | \| | \| | \| | V\| |
| 20+35 | 3.2284 | 0.12 | Q | \| | \| | \| | V\| |
| 20+40 | 3.2292 | 0.12 | Q | \| | \| | \| | V\| |
| 20+45 | 3.2300 | 0.12 | Q | \| | \| | \| | V\| |
| 20+50 | 3.2308 | 0.11 | Q | \| | \| | \| | V\| |
| 20+55 | 3.2314 | 0.09 | Q | \| | \| | \| | V\| |
| 21+ 0 | 3.2320 | 0.09 | Q | \| | \| | \| | V\| |
| 21+ 5 | 3.2327 | 0.09 | Q | \| | \| | \| | V\| |
| 21+10 | 3.2334 | 0.11 | Q | \| | \| | \| | V\| |
| 21+15 | 3.2342 | 0.11 | Q | \| | \| | \| | V\| |
| 21+20 | 3.2350 | 0.11 | Q | \| | \| | \| | V\| |
| 21+25 | 3.2356 | 0.09 | Q | \| | \| | \| | V\| |
| 21+30 | 3.2362 | 0.09 | Q | \| | \| | \| | V\| |
| 21+35 | 3.2368 | 0.09 | Q | \| | \| | \| | V\| |
| 21+40 | 3.2375 | 0.11 | Q | \| | \| | \| | V\| |
| 21+45 | 3.2383 | 0.11 | Q | \| | \| | \| | V\| |
| 21+50 | 3.2391 | 0.11 | Q | \| | \| | \| | V\| |
| 21+55 | 3.2397 | 0.09 | Q | \| | \| | \| | V\| |
| 22+ 0 | 3.2403 | 0.09 | Q | \| | \| | \| | V\| |
| 22+ 5 | 3.2409 | 0.09 | Q | \| | \| | \| | V\| |
| 22+10 | 3.2417 | 0.11 | Q | \| | \| | \| | V\| |
| 22+15 | 3.2425 | 0.11 | Q | \| | \| | \| | V\| |
| 22+20 | 3.2432 | 0.11 | Q | \| | \| | \| | V\| |
| 22+25 | 3.2438 | 0.09 | Q | \| | \| | \| | V\| |
| 22+30 | 3.2444 | 0.09 | Q | \| | \| | \| | V\| |
| 22+35 | 3.2450 | 0.08 | Q | \| | \| | \| | V\| |
| 22+40 | 3.2456 | 0.08 | Q | \| | \| | \| | V\| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 22+45 | 3.2461 | 0.08 | Q | | | | V |
| 22+50 | 3.2467 | 0.08 | Q | | | | V |
| 22+55 | 3.2472 | 0.08 | Q | | | | V |
| 23+ 0 | 3.2478 | 0.08 | Q | | | | V |
| 23+ 5 | 3.2483 | 0.08 | Q | | | | V |
| 23+10 | 3.2489 | 0.08 | Q | | | | V |
| 23+15 | 3.2495 | 0.08 | Q | | | | V |
| 23+20 | 3.2500 | 0.08 | Q | | | | V |
| 23+25 | 3.2506 | 0.08 | Q | | | | V |
| 23+30 | 3.2511 | 0.08 | Q | | | | V |
| 23+35 | 3.2517 | 0.08 | Q | | | | V |
| 23+40 | 3.2522 | 0.08 | Q | | | | V |
| 23+45 | 3.2528 | 0.08 | Q | | | | V |
| 23+50 | 3.2533 | 0.08 | Q | | | | V |
| 23+55 | 3.2539 | 0.08 | Q | | | | V |
| 24+ 0 | 3.2544 | 0.08 | Q | | | | V |
| 24+ 5 | 3.2549 | 0.07 | Q | | | | V |
| 24+10 | 3.2550 | 0.03 | Q | | | | V |
| 24+15 | 3.2551 | 0.01 | Q | | | | V |
| 24+20 | 3.2552 | 0.01 | Q | | | | V |
| 24+25 | 3.2552 | 0.01 | Q | | | | V |
| 24+30 | 3.2553 | 0.00 | Q | | | | V |
| 24+35 | 3.2553 | 0.00 | Q | | | | V |
| 24+40 | 3.2553 | 0.00 | Q | | | | V |

# ATTACHMENT 3

Developed
On-Site Conditions
10-Year & 100-Year
Rational Method

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 03/05/23 File:dev.out

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225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
10-YEAR, 1-HOUR STORM
BY: JTS DATE: 03-05-23

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********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

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Program License Serial Number 6320

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Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [ Banning ] area used.
10 year storm 10 minute intensity = 2.300(In/Hr)
10 year storm 60 minute intensity = 0.890(In/Hr)
100 year storm 10 minute intensity = 3.410(In/Hr)
100 year storm 60 minute intensity = 1.320(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.890(In/Hr)
Slope of intensity duration curve = 0.5300

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

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Initial area flow distance = 533.000(Ft.)
Top (of initial area) elevation = 2391.000(Ft.)
Bottom (of initial area) elevation = 2383.080(Ft.)
Difference in elevation = 7.920(Ft.)
Slope = 0.01486 s(percent)= 1.49
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.579 min.
Rainfall intensity = 2.495(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.861
Decimal fraction soil group A = 0.754
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.246
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 41.10
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 7.540(CFS)
Total initial stream area = 3.510(Ac.)
Pervious area fraction = 0.100

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Process from Point/Station        1.000 to Point/Station        2.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
------------------------------------------------------------------------
Upstream point/station elevation =  2379.080(Ft.)
Downstream point/station elevation =  2379.000(Ft.)
Pipe length  =   108.36(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.540(CFS)
Given pipe size =     24.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
     0.175(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =      0.120(Ft.)
 Minor friction loss =      0.134(Ft.)  K-factor =   1.50
Pipe flow velocity =      2.40(Ft/s)
Travel time through pipe =    0.75 min.
Time of concentration (TC) =     9.33 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        2.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      3.510(Ac.)
Runoff from this stream =      7.540(CFS)
Time of concentration =    9.33 min.
Rainfall intensity =     2.386(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        4.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------
Initial area flow distance =   136.000(Ft.)
Top (of initial area) elevation =  2385.500(Ft.)
Bottom (of initial area) elevation =  2384.520(Ft.)
Difference in elevation =     0.980(Ft.)
Slope =    0.00721  s(percent)=       0.72
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.081 min.
Rainfall intensity =      2.762(In/Hr) for a    10.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.741
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      0.389(CFS)
Total initial stream area =        0.190(Ac.)
Pervious area fraction = 0.350


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Process from Point/Station        4.000 to Point/Station        2.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
------------------------------------------------------------------------
Upstream point/station elevation =  2380.300(Ft.)
Downstream point/station elevation =  2379.000(Ft.)
Pipe length  =   262.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     0.389(CFS)
Given pipe size =      8.00(In.)
Calculated individual pipe flow  =     0.389(CFS)
Normal flow depth in pipe =    3.80(In.)
Flow top width inside pipe =    7.99(In.)
Critical Depth =    3.48(In.)
Pipe flow velocity =      2.38(Ft/s)
Travel time through pipe =    1.83 min.
```

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Time of concentration (TC) =     8.91 min.


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Process from Point/Station        4.000 to Point/Station        2.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      0.190(Ac.)
Runoff from this stream =      0.389(CFS)
Time of concentration =    8.91 min.
Rainfall intensity =     2.445(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        7.540      9.33                2.386
2        0.389      8.91                2.445
Largest stream flow has longer time of concentration
Qp =      7.540 + sum of
          Qb         Ia/Ib
           0.389 *    0.976 =      0.379
Qp =      7.920

Total of 2 streams to confluence:
Flow rates before confluence point:
       7.540       0.389
Area of streams before confluence:
        3.510        0.190
Results of confluence:
Total flow rate =      7.920(CFS)
Time of concentration =     9.331 min.
Effective stream area after confluence =      3.700(Ac.)


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Process from Point/Station        2.000 to Point/Station        2.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
CONDOMINIUM subarea type
Runoff Coefficient = 0.729
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.350; Impervious fraction =  0.650
Time of concentration =     9.33 min.
Rainfall intensity =      2.386(In/Hr) for a    10.0 year storm
Subarea runoff =      0.679(CFS) for      0.390(Ac.)
Total runoff =      8.598(CFS)  Total area =       4.090(Ac.)


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Process from Point/Station        2.000 to Point/Station        5.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =  2379.000(Ft.)
Downstream point/station elevation =  2377.100(Ft.)
Pipe length  =   379.55(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     8.598(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     8.598(CFS)
Normal flow depth in pipe =   12.52(In.)
Flow top width inside pipe =   23.98(In.)
Critical Depth =   12.54(In.)
Pipe flow velocity =      5.18(Ft/s)
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Travel time through pipe =    1.22 min.
Time of concentration (TC) =    10.55 min.


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Process from Point/Station        5.000 to Point/Station        5.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
CONDOMINIUM subarea type
Runoff Coefficient = 0.724
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.350; Impervious fraction =  0.650
Time of concentration =    10.55 min.
Rainfall intensity =      2.236(In/Hr) for a    10.0 year storm
Subarea runoff =      0.971(CFS) for      0.600(Ac.)
Total runoff =      9.569(CFS)  Total area =       4.690(Ac.)


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Process from Point/Station        5.000 to Point/Station        6.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =  2377.100(Ft.)
Downstream point/station elevation =  2376.040(Ft.)
Pipe length  =   105.50(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     9.569(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     9.569(CFS)
Normal flow depth in pipe =   10.88(In.)
Flow top width inside pipe =   23.89(In.)
Critical Depth =   13.26(In.)
Pipe flow velocity =      6.91(Ft/s)
Travel time through pipe =    0.25 min.
Time of concentration (TC) =    10.81 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.000 to Point/Station        6.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.868
Decimal fraction soil group A = 0.446
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.554
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  52.50
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    10.81 min.
Rainfall intensity =      2.208(In/Hr) for a    10.0 year storm
Subarea runoff =      2.434(CFS) for      1.270(Ac.)
Total runoff =     12.004(CFS)  Total area =       5.960(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.000 to Point/Station        7.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =  2376.040(Ft.)
Downstream point/station elevation =  2365.000(Ft.)
Pipe length  =   221.33(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    12.004(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =    12.004(CFS)
Normal flow depth in pipe =    7.96(In.)
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Flow top width inside pipe =   22.60(In.)
Critical Depth =   14.94(In.)
Pipe flow velocity =     13.18(Ft/s)
Travel time through pipe =    0.28 min.
Time of concentration (TC) =    11.09 min.


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Process from Point/Station        6.000 to Point/Station        7.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      5.960(Ac.)
Runoff from this stream =     12.004(CFS)
Time of concentration =   11.09 min.
Rainfall intensity =     2.178(In/Hr)


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Process from Point/Station        0.000 to Point/Station        8.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   312.870(Ft.)
Top (of initial area) elevation =  2391.000(Ft.)
Bottom (of initial area) elevation =  2383.120(Ft.)
Difference in elevation =     7.880(Ft.)
Slope =    0.02519  s(percent)=       2.52
TC = k(0.323)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.716 min.
Rainfall intensity =      2.841(In/Hr) for a    10.0 year storm
APARTMENT subarea type
Runoff Coefficient = 0.818
Decimal fraction soil group A = 0.900
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.100
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  35.70
Pervious area fraction =  0.200; Impervious fraction =  0.800
Initial subarea runoff =      1.997(CFS)
Total initial stream area =        0.860(Ac.)
Pervious area fraction = 0.200


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        8.000 to Point/Station        9.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =  2380.120(Ft.)
Downstream point/station elevation =  2377.000(Ft.)
Pipe length  =   408.16(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     1.997(CFS)
Given pipe size =     12.00(In.)
Calculated individual pipe flow  =     1.997(CFS)
Normal flow depth in pipe =    6.98(In.)
Flow top width inside pipe =   11.84(In.)
Critical Depth =    7.23(In.)
Pipe flow velocity =      4.21(Ft/s)
Travel time through pipe =    1.62 min.
Time of concentration (TC) =     8.33 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station        9.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.883
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
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Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =     8.33 min.
Rainfall intensity =      2.534(In/Hr) for a    10.0 year storm
Subarea runoff =      2.953(CFS) for      1.320(Ac.)
Total runoff =      4.950(CFS)  Total area =       2.180(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station        7.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =  2377.000(Ft.)
Downstream point/station elevation =  2365.500(Ft.)
Pipe length  =    96.38(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.950(CFS)
Given pipe size =     12.00(In.)
Calculated individual pipe flow  =     4.950(CFS)
Normal flow depth in pipe =    5.30(In.)
Flow top width inside pipe =   11.92(In.)
Critical Depth =   10.97(In.)
Pipe flow velocity =     14.82(Ft/s)
Travel time through pipe =    0.11 min.
Time of concentration (TC) =     8.44 min.


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Process from Point/Station        9.000 to Point/Station        7.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      2.180(Ac.)
Runoff from this stream =      4.950(CFS)
Time of concentration =    8.44 min.
Rainfall intensity =     2.517(In/Hr)


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Process from Point/Station       10.000 to Point/Station       11.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   350.520(Ft.)
Top (of initial area) elevation =  2384.480(Ft.)
Bottom (of initial area) elevation =  2377.530(Ft.)
Difference in elevation =     6.950(Ft.)
Slope =    0.01983  s(percent)=       1.98
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.848 min.
Rainfall intensity =      2.812(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.884
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      2.362(CFS)
Total initial stream area =        0.950(Ac.)
Pervious area fraction = 0.100


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Process from Point/Station       11.000 to Point/Station        7.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =  2377.530(Ft.)
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Downstream point/station elevation =  2365.500(Ft.)
Pipe length  =    96.47(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     2.362(CFS)
Given pipe size =     12.00(In.)
Calculated individual pipe flow  =     2.362(CFS)
Normal flow depth in pipe =    3.52(In.)
Flow top width inside pipe =   10.93(In.)
Critical Depth =    7.89(In.)
Pipe flow velocity =     12.28(Ft/s)
Travel time through pipe =    0.13 min.
Time of concentration (TC) =     6.98 min.


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Process from Point/Station       11.000 to Point/Station        7.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 3
Stream flow area =      0.950(Ac.)
Runoff from this stream =      2.362(CFS)
Time of concentration =    6.98 min.
Rainfall intensity =     2.784(In/Hr)


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Process from Point/Station       12.000 to Point/Station       13.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   766.580(Ft.)
Top (of initial area) elevation =  2385.500(Ft.)
Bottom (of initial area) elevation =  2374.100(Ft.)
Difference in elevation =    11.400(Ft.)
Slope =    0.01487  s(percent)=       1.49
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.919 min.
Rainfall intensity =      2.310(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.860
Decimal fraction soil group A = 0.737
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.263
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  41.73
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      8.979(CFS)
Total initial stream area =        4.520(Ac.)
Pervious area fraction = 0.100


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Process from Point/Station       13.000 to Point/Station        7.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =  2366.400(Ft.)
Downstream point/station elevation =  2365.500(Ft.)
Pipe length  =    99.22(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     8.979(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     8.979(CFS)
Normal flow depth in pipe =   10.80(In.)
Flow top width inside pipe =   23.88(In.)
Critical Depth =   12.84(In.)
Pipe flow velocity =      6.55(Ft/s)
Travel time through pipe =    0.25 min.
Time of concentration (TC) =    10.17 min.


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Process from Point/Station       13.000 to Point/Station        7.000
```

**** CONFLUENCE OF MINOR STREAMS ****

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Along Main Stream number: 1 in normal stream number 4
Stream flow area = 4.520(Ac.)
Runoff from this stream = 8.979(CFS)
Time of concentration = 10.17 min.
Rainfall intensity = 2.280(In/Hr)
Summary of stream data:

| Stream No. | Flow rate (CFS) | TC (min) | Rainfall Intensity (In/Hr) |
|---|---|---|---|
| 1 | 12.004 | 11.09 | 2.178 |
| 2 | 4.950 | 8.44 | 2.517 |
| 3 | 2.362 | 6.98 | 2.784 |
| 4 | 8.979 | 10.17 | 2.280 |

Largest stream flow has longer time of concentration
Qp = 12.004 + sum of

| Qb | | Ia/Ib | | |
|---|---|---|---|---|
| 4.950 | * | 0.865 | = | 4.284 |
| Qb | | Ia/Ib | | |
| 2.362 | * | 0.782 | = | 1.848 |
| Qb | | Ia/Ib | | |
| 8.979 | * | 0.955 | = | 8.579 |

Qp = 26.715

Total of 4 streams to confluence:
Flow rates before confluence point:
12.004 4.950 2.362 8.979
Area of streams before confluence:
5.960 2.180 0.950 4.520
Results of confluence:
Total flow rate = 26.715(CFS)
Time of concentration = 11.085 min.
Effective stream area after confluence = 13.610(Ac.)

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Process from Point/Station 14.000 to Point/Station 15.000
**** INITIAL AREA EVALUATION ****

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Initial area flow distance = 921.000(Ft.)
Top (of initial area) elevation = 2385.880(Ft.)
Bottom (of initial area) elevation = 2362.590(Ft.)
Difference in elevation = 23.290(Ft.)
Slope = 0.02529 s(percent)= 2.53
TC = k(0.480)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.359 min.
Rainfall intensity = 1.832(In/Hr) for a 10.0 year storm
SINGLE FAMILY (1 Acre Lot)
Runoff Coefficient = 0.674
Decimal fraction soil group A = 0.206
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.794
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 61.38
Pervious area fraction = 0.800; Impervious fraction = 0.200
Initial subarea runoff = 0.815(CFS)
Total initial stream area = 0.660(Ac.)
Pervious area fraction = 0.800
End of computations, total study area = 14.27 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.159
Area averaged RI index number = 46.6

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 03/05/23 File:dev.out

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225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
100-YEAR, 1-HOUR STORM
BY: JTS DATE: 03-05-23

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********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

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Program License Serial Number 6320

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Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [ Banning ] area used.
10 year storm 10 minute intensity = 2.300(In/Hr)
10 year storm 60 minute intensity = 0.890(In/Hr)
100 year storm 10 minute intensity = 3.410(In/Hr)
100 year storm 60 minute intensity = 1.320(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.320(In/Hr)
Slope of intensity duration curve = 0.5300

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Process from Point/Station 0.000 to Point/Station 1.000
**** INITIAL AREA EVALUATION ****

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Initial area flow distance = 533.000(Ft.)
Top (of initial area) elevation = 2391.000(Ft.)
Bottom (of initial area) elevation = 2383.080(Ft.)
Difference in elevation = 7.920(Ft.)
Slope = 0.01486 s(percent)= 1.49
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.579 min.
Rainfall intensity = 3.701(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.869
Decimal fraction soil group A = 0.754
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.246
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 41.10
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 11.292(CFS)
Total initial stream area = 3.510(Ac.)
Pervious area fraction = 0.100

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Process from Point/Station        1.000 to Point/Station        2.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
------------------------------------------------------------------------
Upstream point/station elevation =  2379.080(Ft.)
Downstream point/station elevation =  2379.000(Ft.)
Pipe length  =   108.36(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    11.292(CFS)
Given pipe size =     24.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
     0.491(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =      0.270(Ft.)
 Minor friction loss =      0.301(Ft.)  K-factor =   1.50
Pipe flow velocity =      3.59(Ft/s)
Travel time through pipe =    0.50 min.
Time of concentration (TC) =     9.08 min.


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Process from Point/Station        1.000 to Point/Station        2.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      3.510(Ac.)
Runoff from this stream =     11.292(CFS)
Time of concentration =    9.08 min.
Rainfall intensity =     3.591(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        4.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------
Initial area flow distance =   136.000(Ft.)
Top (of initial area) elevation =  2385.500(Ft.)
Bottom (of initial area) elevation =  2384.520(Ft.)
Difference in elevation =     0.980(Ft.)
Slope =    0.00721  s(percent)=       0.72
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.081 min.
Rainfall intensity =      4.097(In/Hr) for a   100.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.771
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      0.600(CFS)
Total initial stream area =       0.190(Ac.)
Pervious area fraction = 0.350


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Process from Point/Station        4.000 to Point/Station        2.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
------------------------------------------------------------------------
Upstream point/station elevation =  2380.300(Ft.)
Downstream point/station elevation =  2379.000(Ft.)
Pipe length  =   262.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     0.600(CFS)
Given pipe size =      8.00(In.)
Calculated individual pipe flow  =     0.600(CFS)
Normal flow depth in pipe =    4.96(In.)
Flow top width inside pipe =    7.77(In.)
Critical Depth =    4.37(In.)
Pipe flow velocity =      2.64(Ft/s)
Travel time through pipe =    1.65 min.
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Time of concentration (TC) =     8.73 min.


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Process from Point/Station        4.000 to Point/Station        2.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      0.190(Ac.)
Runoff from this stream =      0.600(CFS)
Time of concentration =    8.73 min.
Rainfall intensity =     3.666(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       11.292      9.08                 3.591
2        0.600      8.73                 3.666
Largest stream flow has longer time of concentration
Qp =     11.292 + sum of
          Qb         Ia/Ib
           0.600 *    0.980 =      0.588
Qp =     11.881

Total of 2 streams to confluence:
Flow rates before confluence point:
      11.292       0.600
Area of streams before confluence:
        3.510        0.190
Results of confluence:
Total flow rate =     11.881(CFS)
Time of concentration =     9.081 min.
Effective stream area after confluence =      3.700(Ac.)


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Process from Point/Station        2.000 to Point/Station        2.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
CONDOMINIUM subarea type
Runoff Coefficient = 0.761
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.350; Impervious fraction =  0.650
Time of concentration =     9.08 min.
Rainfall intensity =      3.591(In/Hr) for a   100.0 year storm
Subarea runoff =      1.066(CFS) for      0.390(Ac.)
Total runoff =     12.946(CFS)  Total area =       4.090(Ac.)


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Process from Point/Station        2.000 to Point/Station        5.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =  2379.000(Ft.)
Downstream point/station elevation =  2377.100(Ft.)
Pipe length  =   379.55(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    12.946(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =    12.946(CFS)
Normal flow depth in pipe =   16.36(In.)
Flow top width inside pipe =   22.36(In.)
Critical Depth =   15.54(In.)
Pipe flow velocity =      5.67(Ft/s)
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Travel time through pipe =    1.12 min.
Time of concentration (TC) =    10.20 min.


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Process from Point/Station        5.000 to Point/Station        5.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
CONDOMINIUM subarea type
Runoff Coefficient = 0.756
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.350; Impervious fraction =  0.650
Time of concentration =    10.20 min.
Rainfall intensity =      3.377(In/Hr) for a   100.0 year storm
Subarea runoff =      1.532(CFS) for      0.600(Ac.)
Total runoff =     14.479(CFS)  Total area =       4.690(Ac.)


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Process from Point/Station        5.000 to Point/Station        6.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =  2377.100(Ft.)
Downstream point/station elevation =  2376.040(Ft.)
Pipe length  =   105.50(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    14.479(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =    14.479(CFS)
Normal flow depth in pipe =   13.93(In.)
Flow top width inside pipe =   23.69(In.)
Critical Depth =   16.44(In.)
Pipe flow velocity =      7.65(Ft/s)
Travel time through pipe =    0.23 min.
Time of concentration (TC) =    10.43 min.


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Process from Point/Station        6.000 to Point/Station        6.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.876
Decimal fraction soil group A = 0.446
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.554
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  52.50
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    10.43 min.
Rainfall intensity =      3.337(In/Hr) for a   100.0 year storm
Subarea runoff =      3.713(CFS) for      1.270(Ac.)
Total runoff =     18.192(CFS)  Total area =       5.960(Ac.)


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Process from Point/Station        6.000 to Point/Station        7.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =  2376.040(Ft.)
Downstream point/station elevation =  2365.000(Ft.)
Pipe length  =   221.33(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    18.192(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =    18.192(CFS)
Normal flow depth in pipe =    9.96(In.)
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Flow top width inside pipe =   23.65(In.)
Critical Depth =   18.43(In.)
Pipe flow velocity =     14.77(Ft/s)
Travel time through pipe =    0.25 min.
Time of concentration (TC) =    10.68 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.000 to Point/Station        7.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      5.960(Ac.)
Runoff from this stream =     18.192(CFS)
Time of concentration =   10.68 min.
Rainfall intensity =     3.296(In/Hr)


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Process from Point/Station        0.000 to Point/Station        8.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   312.870(Ft.)
Top (of initial area) elevation =  2391.000(Ft.)
Bottom (of initial area) elevation =  2383.120(Ft.)
Difference in elevation =     7.880(Ft.)
Slope =    0.02519  s(percent)=       2.52
TC = k(0.323)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.716 min.
Rainfall intensity =      4.213(In/Hr) for a   100.0 year storm
APARTMENT subarea type
Runoff Coefficient = 0.835
Decimal fraction soil group A = 0.900
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.100
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  35.70
Pervious area fraction =  0.200; Impervious fraction =  0.800
Initial subarea runoff =      3.024(CFS)
Total initial stream area =        0.860(Ac.)
Pervious area fraction = 0.200


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Process from Point/Station        8.000 to Point/Station        9.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =  2380.120(Ft.)
Downstream point/station elevation =  2377.000(Ft.)
Pipe length  =   408.16(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     3.024(CFS)
Given pipe size =     12.00(In.)
Calculated individual pipe flow  =     3.024(CFS)
Normal flow depth in pipe =    9.54(In.)
Flow top width inside pipe =    9.69(In.)
Critical Depth =    8.94(In.)
Pipe flow velocity =      4.52(Ft/s)
Travel time through pipe =    1.51 min.
Time of concentration (TC) =     8.22 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station        9.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.888
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
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Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =     8.22 min.
Rainfall intensity =      3.785(In/Hr) for a   100.0 year storm
Subarea runoff =      4.435(CFS) for      1.320(Ac.)
Total runoff =      7.460(CFS)  Total area =       2.180(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station        7.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =  2377.000(Ft.)
Downstream point/station elevation =  2365.500(Ft.)
Pipe length  =    96.38(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.460(CFS)
Given pipe size =     12.00(In.)
Calculated individual pipe flow  =     7.460(CFS)
Normal flow depth in pipe =    6.74(In.)
Flow top width inside pipe =   11.91(In.)
Critical depth could not be calculated.
Pipe flow velocity =     16.41(Ft/s)
Travel time through pipe =    0.10 min.
Time of concentration (TC) =     8.32 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station        7.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      2.180(Ac.)
Runoff from this stream =      7.460(CFS)
Time of concentration =    8.32 min.
Rainfall intensity =     3.761(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       10.000 to Point/Station       11.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   350.520(Ft.)
Top (of initial area) elevation =  2384.480(Ft.)
Bottom (of initial area) elevation =  2377.530(Ft.)
Difference in elevation =     6.950(Ft.)
Slope =    0.01983  s(percent)=       1.98
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.848 min.
Rainfall intensity =      4.170(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.889
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      3.521(CFS)
Total initial stream area =        0.950(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       11.000 to Point/Station        7.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =  2377.530(Ft.)
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Downstream point/station elevation =  2365.500(Ft.)
Pipe length  =    96.47(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     3.521(CFS)
Given pipe size =     12.00(In.)
Calculated individual pipe flow  =     3.521(CFS)
Normal flow depth in pipe =    4.34(In.)
Flow top width inside pipe =   11.53(In.)
Critical Depth =    9.62(In.)
Pipe flow velocity =     13.74(Ft/s)
Travel time through pipe =    0.12 min.
Time of concentration (TC) =     6.96 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       11.000 to Point/Station        7.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 3
Stream flow area =      0.950(Ac.)
Runoff from this stream =      3.521(CFS)
Time of concentration =    6.96 min.
Rainfall intensity =     4.133(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       12.000 to Point/Station       13.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   766.580(Ft.)
Top (of initial area) elevation =  2385.500(Ft.)
Bottom (of initial area) elevation =  2374.100(Ft.)
Difference in elevation =    11.400(Ft.)
Slope =    0.01487  s(percent)=       1.49
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.919 min.
Rainfall intensity =      3.427(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.868
Decimal fraction soil group A = 0.737
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.263
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  41.73
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     13.449(CFS)
Total initial stream area =        4.520(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       13.000 to Point/Station        7.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =  2366.400(Ft.)
Downstream point/station elevation =  2365.500(Ft.)
Pipe length  =    99.22(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    13.449(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =    13.449(CFS)
Normal flow depth in pipe =   13.73(In.)
Flow top width inside pipe =   23.75(In.)
Critical Depth =   15.84(In.)
Pipe flow velocity =      7.23(Ft/s)
Travel time through pipe =    0.23 min.
Time of concentration (TC) =    10.15 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       13.000 to Point/Station        7.000
```

```
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________
Along Main Stream number: 1 in normal stream number 4
Stream flow area =      4.520(Ac.)
Runoff from this stream =     13.449(CFS)
Time of concentration =   10.15 min.
Rainfall intensity =     3.385(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                (In/Hr)


1       18.192     10.68                 3.296
2        7.460      8.32                 3.761
3        3.521      6.96                 4.133
4       13.449     10.15                 3.385
Largest stream flow has longer time of concentration
Qp =     18.192 + sum of
          Qb         Ia/Ib
           7.460 *    0.876 =      6.536
          Qb         Ia/Ib
           3.521 *    0.797 =      2.807
          Qb         Ia/Ib
           13.449 *    0.973 =     13.092
Qp =     40.627

Total of 4 streams to confluence:
Flow rates before confluence point:
      18.192       7.460       3.521      13.449
Area of streams before confluence:
        5.960        2.180        0.950        4.520
Results of confluence:
Total flow rate =     40.627(CFS)
Time of concentration =    10.676 min.
Effective stream area after confluence =     13.610(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       14.000 to Point/Station       15.000
**** INITIAL AREA EVALUATION ****
____________________________________________________________________
Initial area flow distance =   921.000(Ft.)
Top (of initial area) elevation =  2385.880(Ft.)
Bottom (of initial area) elevation =  2362.590(Ft.)
Difference in elevation =    23.290(Ft.)
Slope =    0.02529  s(percent)=       2.53
TC = k(0.480)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   15.359 min.
Rainfall intensity =      2.718(In/Hr) for a   100.0 year storm
SINGLE FAMILY (1 Acre Lot)
Runoff Coefficient = 0.730
Decimal fraction soil group A = 0.206
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.794
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  61.38
Pervious area fraction =  0.800; Impervious fraction =  0.200
Initial subarea runoff =      1.310(CFS)
Total initial stream area =        0.660(Ac.)
Pervious area fraction = 0.800
End of computations, total study area =           14.27 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.159
Area averaged RI index number =  46.6
```

# ATTACHMENT 4

Developed
On-Site Conditions
2, 5, 10, & 100-Year
Unit Hydrograph Calculations

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: devhyd12.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

----------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

----------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
2-YEAR STORM
BY: JTS  DATE: 03-02-23
----------------------------------------------------------------------
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.56 | 7.99 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.28 | 18.27 |

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.560(In)
Area Averaged 100-Year Rainfall = 1.280(In)

Point rain (area averaged) = 0.560(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.560(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
          14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 46.6  27.6      0.779     0.159        0.668       1.000      0.668
                                                  Sum (F) =   0.668
 Area averaged mean soil loss (F) (In/Hr) =  0.668
 Minimum soil loss rate ((In/Hr)) =  0.334
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.259
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5300
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %           (CFS)
 ------------------------------------------------------------------------
     1   0.083        157.487         34.939             5.025
     2   0.167        314.973         46.456             6.681
     3   0.250        472.460         10.764             1.548
     4   0.333        629.946          4.657             0.670
     5   0.417        787.433          2.267             0.326
     6   0.500        944.919          0.918             0.132
                                 Sum = 100.000   Sum=     14.381
-------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     3.40      0.228       (  0.668)       0.059        0.169
   2   0.17     4.70      0.316       (  0.668)       0.082        0.234
   3   0.25     4.70      0.316       (  0.668)       0.082        0.234
   4   0.33     5.10      0.343       (  0.668)       0.089        0.254
   5   0.42     5.80      0.390       (  0.668)       0.101        0.289
   6   0.50     5.90      0.396       (  0.668)       0.103        0.294
   7   0.58     7.10      0.477       (  0.668)       0.124        0.354
   8   0.67     8.70      0.585       (  0.668)       0.151        0.433
   9   0.75    13.20      0.887       (  0.668)       0.230        0.657
  10   0.83    29.70      1.996       (  0.668)       0.517        1.479
  11   0.92     7.70      0.517       (  0.668)       0.134        0.383
  12   1.00     4.00      0.269       (  0.668)       0.070        0.199
                (Loss Rate Not Used)
     Sum =     100.0                                  Sum =     5.0
        Flood volume = Effective rainfall      0.41(In)
         times area      14.3(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
        Total soil loss =      0.15(In)
        Total soil loss =     0.172(Ac.Ft)
        Total rainfall =      0.56(In)
        Flood volume =       21492.2 Cubic Feet
        Total soil loss =        7512.1 Cubic Feet
        ------------------------------------------------------------------------
         Peak flow rate of this hydrograph =     13.274(CFS)
        ------------------------------------------------------------------------
        ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f     H y d r o g r a p h
        ------------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))
```

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 5.0 10.0 15.0 20.0 |
|---|---|---|---|
| 0+ 5 | 0.0059 | 0.85 | VQ |
| 0+10 | 0.0218 | 2.31 | V Q |
| 0+15 | 0.0424 | 3.00 | V Q |
| 0+20 | 0.0653 | 3.32 | VQ |
| 0+25 | 0.0909 | 3.72 | Q |
| 0+30 | 0.1189 | 4.06 | QV |
| 0+35 | 0.1496 | 4.47 | Q V |
| 0+40 | 0.1861 | 5.30 | Q V |
| 0+45 | 0.2348 | 7.07 | Q V |
| 0+50 | 0.3235 | 12.87 | QV |
| 0+55 | 0.4149 | 13.27 | Q V |
| 1+ 0 | 0.4595 | 6.48 | Q V |
| 1+ 5 | 0.4815 | 3.19 | Q V |
| 1+10 | 0.4893 | 1.13 | Q V |
| 1+15 | 0.4924 | 0.45 | Q V |
| 1+20 | 0.4932 | 0.12 | Q V |
| 1+25 | 0.4934 | 0.03 | Q V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: devhyd32.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
2-YEAR STORM
BY: JTS DATE: 03-02-23

---

Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.96 | 13.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.23 | 31.82 |

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.960(In)
Area Averaged 100-Year Rainfall = 2.230(In)

Point rain (area averaged) = 0.960(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.960(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|

```
   14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  27.6      0.779     0.159        0.668       1.000      0.668
                                                 Sum (F) =   0.668
Area averaged mean soil loss (F) (In/Hr) =  0.668
Minimum soil loss rate ((In/Hr)) =  0.334
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     1.30      0.150       (  0.668)       0.039        0.111
    2   0.17     1.30      0.150       (  0.668)       0.039        0.111
    3   0.25     1.10      0.127       (  0.668)       0.033        0.094
    4   0.33     1.50      0.173       (  0.668)       0.045        0.128
    5   0.42     1.50      0.173       (  0.668)       0.045        0.128
    6   0.50     1.80      0.207       (  0.668)       0.054        0.154
    7   0.58     1.50      0.173       (  0.668)       0.045        0.128
    8   0.67     1.80      0.207       (  0.668)       0.054        0.154
    9   0.75     1.80      0.207       (  0.668)       0.054        0.154
   10   0.83     1.50      0.173       (  0.668)       0.045        0.128
   11   0.92     1.60      0.184       (  0.668)       0.048        0.137
   12   1.00     1.80      0.207       (  0.668)       0.054        0.154
   13   1.08     2.20      0.253       (  0.668)       0.066        0.188
   14   1.17     2.20      0.253       (  0.668)       0.066        0.188
   15   1.25     2.20      0.253       (  0.668)       0.066        0.188
   16   1.33     2.00      0.230       (  0.668)       0.060        0.171
   17   1.42     2.60      0.300       (  0.668)       0.078        0.222
   18   1.50     2.70      0.311       (  0.668)       0.081        0.230
   19   1.58     2.40      0.276       (  0.668)       0.072        0.205
   20   1.67     2.70      0.311       (  0.668)       0.081        0.230
   21   1.75     3.30      0.380       (  0.668)       0.098        0.282
   22   1.83     3.10      0.357       (  0.668)       0.092        0.265
   23   1.92     2.90      0.334       (  0.668)       0.087        0.248
   24   2.00     3.00      0.346       (  0.668)       0.090        0.256
   25   2.08     3.10      0.357       (  0.668)       0.092        0.265
   26   2.17     4.20      0.484       (  0.668)       0.125        0.359
   27   2.25     5.00      0.576       (  0.668)       0.149        0.427
   28   2.33     3.50      0.403       (  0.668)       0.104        0.299
   29   2.42     6.80      0.783       (  0.668)       0.203        0.580
   30   2.50     7.30      0.841       (  0.668)       0.218        0.623
   31   2.58     8.20      0.945       (  0.668)       0.245        0.700
   32   2.67     5.90      0.680       (  0.668)       0.176        0.504
```

```
33   2.75     2.00      0.230       (  0.668)       0.060        0.171
34   2.83     1.80      0.207       (  0.668)       0.054        0.154
35   2.92     1.80      0.207       (  0.668)       0.054        0.154
36   3.00     0.60      0.069       (  0.668)       0.018        0.051
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =     8.5
      Flood volume = Effective rainfall      0.71(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      0.25(In)
      Total soil loss =     0.296(Ac.Ft)
      Total rainfall =      0.96(In)
      Flood volume =       36846.2 Cubic Feet
      Total soil loss =       12878.8 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      8.970(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0038      0.56  V Q       |         |         |         |
  0+10       0.0128      1.30  V    Q    |         |         |         |
  0+15       0.0223      1.39  |V   Q    |         |         |         |
  0+20       0.0328      1.52  |V    Q   |         |         |         |
  0+25       0.0449      1.76  | V    Q  |         |         |         |
  0+30       0.0582      1.94  | V    Q  |         |         |         |
  0+35       0.0720      2.00  |  V    Q |         |         |         |
  0+40       0.0858      2.01  |   V   Q |         |         |         |
  0+45       0.1007      2.16  |   V   Q |         |         |         |
  0+50       0.1149      2.06  |    V  Q |         |         |         |
  0+55       0.1283      1.95  |     VQ  |         |         |         |
  1+ 0       0.1424      2.05  |     V Q |         |         |         |
  1+ 5       0.1586      2.34  |      V Q|         |         |         |
  1+10       0.1764      2.59  |       V Q         |         |         |
  1+15       0.1947      2.65  |        VQ         |         |         |
  1+20       0.2126      2.60  |         Q         |         |         |
  1+25       0.2315      2.76  |         VQ        |         |         |
  1+30       0.2530      3.12  |         |VQ       |         |         |
  1+35       0.2745      3.11  |         | Q       |         |         |
  1+40       0.2959      3.11  |         | QV      |         |         |
  1+45       0.3202      3.52  |         |   QV    |         |         |
  1+50       0.3464      3.81  |         |    QV   |         |         |
  1+55       0.3719      3.70  |         |   Q  V  |         |         |
  2+ 0       0.3970      3.64  |         |   Q   V |         |         |
  2+ 5       0.4227      3.73  |         |   Q    V|         |         |
  2+10       0.4520      4.26  |         |      Q  |V        |         |
  2+15       0.4881      5.24  |         |         Q  V      |         |
  2+20       0.5239      5.20  |         |         Q   V     |         |
  2+25       0.5648      5.94  |         |         |  Q  V   |         |
  2+30       0.6193      7.91  |         |         |        V|Q        |
  2+35       0.6811      8.97  |         |         |         | V  Q    |
  2+40       0.7411      8.72  |         |         |         |   QV    |
  2+45       0.7821      5.95  |         |         |  Q      |     V   |
  2+50       0.8058      3.44  |         |  Q      |         |       V |
  2+55       0.8245      2.71  |         Q         |         |       V |
  3+ 0       0.8375      1.89  |       Q |         |         |        V|
  3+ 5       0.8431      0.81  |  Q      |         |         |        V|
  3+10       0.8448      0.25  |Q        |         |         |        V|
  3+15       0.8456      0.10  Q         |         |         |        V|
  3+20       0.8458      0.04  Q         |         |         |        V|
  3+25       0.8459      0.01  Q         |         |         |        V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: devhyd62.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
2-YEAR STORM
BY: JTS DATE: 03-02-23
---
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.42 | 20.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 3.15 | 44.95 |

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.420(In)
Area Averaged 100-Year Rainfall = 3.150(In)

Point rain (area averaged) = 1.420(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.420(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
    14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  27.6      0.779     0.159        0.668       1.000      0.668
                                                 Sum (F) =   0.668
Area averaged mean soil loss (F) (In/Hr) =  0.668
Minimum soil loss rate ((In/Hr)) =  0.334
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     0.50      0.085       (  0.668)       0.022        0.063
    2   0.17     0.60      0.102       (  0.668)       0.026        0.076
    3   0.25     0.60      0.102       (  0.668)       0.026        0.076
    4   0.33     0.60      0.102       (  0.668)       0.026        0.076
    5   0.42     0.60      0.102       (  0.668)       0.026        0.076
    6   0.50     0.70      0.119       (  0.668)       0.031        0.088
    7   0.58     0.70      0.119       (  0.668)       0.031        0.088
    8   0.67     0.70      0.119       (  0.668)       0.031        0.088
    9   0.75     0.70      0.119       (  0.668)       0.031        0.088
   10   0.83     0.70      0.119       (  0.668)       0.031        0.088
   11   0.92     0.70      0.119       (  0.668)       0.031        0.088
   12   1.00     0.80      0.136       (  0.668)       0.035        0.101
   13   1.08     0.80      0.136       (  0.668)       0.035        0.101
   14   1.17     0.80      0.136       (  0.668)       0.035        0.101
   15   1.25     0.80      0.136       (  0.668)       0.035        0.101
   16   1.33     0.80      0.136       (  0.668)       0.035        0.101
   17   1.42     0.80      0.136       (  0.668)       0.035        0.101
   18   1.50     0.80      0.136       (  0.668)       0.035        0.101
   19   1.58     0.80      0.136       (  0.668)       0.035        0.101
   20   1.67     0.80      0.136       (  0.668)       0.035        0.101
   21   1.75     0.80      0.136       (  0.668)       0.035        0.101
   22   1.83     0.80      0.136       (  0.668)       0.035        0.101
   23   1.92     0.80      0.136       (  0.668)       0.035        0.101
   24   2.00     0.90      0.153       (  0.668)       0.040        0.114
   25   2.08     0.80      0.136       (  0.668)       0.035        0.101
   26   2.17     0.90      0.153       (  0.668)       0.040        0.114
   27   2.25     0.90      0.153       (  0.668)       0.040        0.114
   28   2.33     0.90      0.153       (  0.668)       0.040        0.114
   29   2.42     0.90      0.153       (  0.668)       0.040        0.114
   30   2.50     0.90      0.153       (  0.668)       0.040        0.114
   31   2.58     0.90      0.153       (  0.668)       0.040        0.114
   32   2.67     0.90      0.153       (  0.668)       0.040        0.114
```

```
33   2.75     1.00      0.170       (  0.668)       0.044        0.126
34   2.83     1.00      0.170       (  0.668)       0.044        0.126
35   2.92     1.00      0.170       (  0.668)       0.044        0.126
36   3.00     1.00      0.170       (  0.668)       0.044        0.126
37   3.08     1.00      0.170       (  0.668)       0.044        0.126
38   3.17     1.10      0.187       (  0.668)       0.049        0.139
39   3.25     1.10      0.187       (  0.668)       0.049        0.139
40   3.33     1.10      0.187       (  0.668)       0.049        0.139
41   3.42     1.20      0.204       (  0.668)       0.053        0.152
42   3.50     1.30      0.222       (  0.668)       0.057        0.164
43   3.58     1.40      0.239       (  0.668)       0.062        0.177
44   3.67     1.40      0.239       (  0.668)       0.062        0.177
45   3.75     1.50      0.256       (  0.668)       0.066        0.189
46   3.83     1.50      0.256       (  0.668)       0.066        0.189
47   3.92     1.60      0.273       (  0.668)       0.071        0.202
48   4.00     1.60      0.273       (  0.668)       0.071        0.202
49   4.08     1.70      0.290       (  0.668)       0.075        0.215
50   4.17     1.80      0.307       (  0.668)       0.079        0.227
51   4.25     1.90      0.324       (  0.668)       0.084        0.240
52   4.33     2.00      0.341       (  0.668)       0.088        0.253
53   4.42     2.10      0.358       (  0.668)       0.093        0.265
54   4.50     2.10      0.358       (  0.668)       0.093        0.265
55   4.58     2.20      0.375       (  0.668)       0.097        0.278
56   4.67     2.30      0.392       (  0.668)       0.102        0.290
57   4.75     2.40      0.409       (  0.668)       0.106        0.303
58   4.83     2.40      0.409       (  0.668)       0.106        0.303
59   4.92     2.50      0.426       (  0.668)       0.110        0.316
60   5.00     2.60      0.443       (  0.668)       0.115        0.328
61   5.08     3.10      0.528       (  0.668)       0.137        0.391
62   5.17     3.60      0.613       (  0.668)       0.159        0.455
63   5.25     3.90      0.665       (  0.668)       0.172        0.492
64   5.33     4.20      0.716       (  0.668)       0.185        0.530
65   5.42     4.70      0.801       (  0.668)       0.207        0.593
66   5.50     5.60      0.954       (  0.668)       0.247        0.707
67   5.58     1.90      0.324       (  0.668)       0.084        0.240
68   5.67     0.90      0.153       (  0.668)       0.040        0.114
69   5.75     0.60      0.102       (  0.668)       0.026        0.076
70   5.83     0.50      0.085       (  0.668)       0.022        0.063
71   5.92     0.30      0.051       (  0.668)       0.013        0.038
72   6.00     0.20      0.034       (  0.668)       0.009        0.025
              (Loss Rate Not Used)
   Sum =     100.0                                  Sum =    12.6
      Flood volume = Effective rainfall      1.05(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       1.3(Ac.Ft)
      Total soil loss =      0.37(In)
      Total soil loss =     0.437(Ac.Ft)
      Total rainfall =      1.42(In)
      Flood volume =       54502.4 Cubic Feet
      Total soil loss =       19050.1 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      8.873(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f     H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0022      0.32  VQ        |         |         |         |
  0+10       0.0077      0.80  V  Q      |         |         |         |
  0+15       0.0145      0.99  V  Q      |         |         |         |
  0+20       0.0217      1.05  V   Q     |         |         |         |
  0+25       0.0291      1.08  V   Q     |         |         |         |
  0+30       0.0371      1.15  |V  Q     |         |         |         |
  0+35       0.0456      1.24  |V  Q     |         |         |         |
  0+40       0.0542      1.26  |V   Q    |         |         |         |
```

```
0+45      0.0630     1.27  | V  Q    |         |         |         |
0+50      0.0717     1.27  | V  Q    |         |         |         |
0+55      0.0805     1.27  | V  Q    |         |         |         |
1+ 0      0.0897     1.34  | V  Q    |         |         |         |
1+ 5      0.0994     1.42  |  V Q    |         |         |         |
1+10      0.1093     1.44  |  V Q    |         |         |         |
1+15      0.1193     1.45  |  V Q    |         |         |         |
1+20      0.1293     1.45  |   VQ    |         |         |         |
1+25      0.1393     1.45  |   VQ    |         |         |         |
1+30      0.1493     1.45  |   VQ    |         |         |         |
1+35      0.1593     1.45  |    Q    |         |         |         |
1+40      0.1694     1.45  |    Q    |         |         |         |
1+45      0.1794     1.45  |    Q    |         |         |         |
1+50      0.1894     1.45  |    QV   |         |         |         |
1+55      0.1994     1.45  |    QV   |         |         |         |
2+ 0      0.2098     1.52  |     Q   |         |         |         |
2+ 5      0.2204     1.54  |     QV  |         |         |         |
2+10      0.2310     1.54  |     QV  |         |         |         |
2+15      0.2421     1.61  |     QV  |         |         |         |
2+20      0.2533     1.62  |     Q V |         |         |         |
2+25      0.2645     1.63  |     Q V |         |         |         |
2+30      0.2758     1.63  |     Q V |         |         |         |
2+35      0.2870     1.64  |     Q  V|         |         |         |
2+40      0.2983     1.64  |     Q  V|         |         |         |
2+45      0.3100     1.70  |     Q  V|         |         |         |
2+50      0.3223     1.78  |      Q  V         |         |         |
2+55      0.3347     1.80  |      Q  V         |         |         |
3+ 0      0.3471     1.81  |      Q  |V        |         |         |
3+ 5      0.3596     1.82  |      Q  |V        |         |         |
3+10      0.3726     1.88  |      Q  |V        |         |         |
3+15      0.3861     1.96  |      Q  | V       |         |         |
3+20      0.3998     1.98  |      Q  | V       |         |         |
3+25      0.4139     2.06  |       Q |  V      |         |         |
3+30      0.4292     2.21  |       Q |  V      |         |         |
3+35      0.4455     2.38  |        Q|   V     |         |         |
3+40      0.4627     2.49  |        Q|   V     |         |         |
3+45      0.4805     2.59  |         Q    V    |         |         |
3+50      0.4990     2.68  |         Q    V    |         |         |
3+55      0.5181     2.77  |         |Q    V   |         |         |
4+ 0      0.5378     2.87  |         |Q     V  |         |         |
4+ 5      0.5582     2.95  |         |Q     V  |         |         |
4+10      0.5796     3.11  |         | Q     V |         |         |
4+15      0.6022     3.28  |         |  Q     V|         |         |
4+20      0.6260     3.46  |         |  Q      V         |         |
4+25      0.6511     3.64  |         |   Q     V         |         |
4+30      0.6770     3.76  |         |    Q    |V        |         |
4+35      0.7036     3.86  |         |    Q    | V       |         |
4+40      0.7313     4.02  |         |     Q   |  V      |         |
4+45      0.7601     4.19  |         |     Q   |   V     |         |
4+50      0.7898     4.31  |         |      Q  |    V    |         |
4+55      0.8201     4.40  |         |      Q  |     V   |         |
5+ 0      0.8515     4.56  |         |       Q |      V  |         |
5+ 5      0.8859     4.99  |         |        Q|       V |         |
5+10      0.9256     5.76  |         |         |  Q     V|         |
5+15      0.9702     6.48  |         |         |    Q    |V        |
5+20      1.0189     7.07  |         |         |       Q | V       |
5+25      1.0724     7.77  |         |         |         |Q  V     |
5+30      1.1335     8.87  |         |         |         |    QV   |
5+35      1.1847     7.43  |         |         |        Q|      V  |
5+40      1.2116     3.91  |         |    Q    |         |       V |
5+45      1.2271     2.25  |       Q |         |         |        V|
5+50      1.2372     1.47  |    Q    |         |         |        V|
5+55      1.2439     0.98  |  Q      |         |         |        V|
6+ 0      1.2480     0.60  | Q       |         |         |        V|
6+ 5      1.2502     0.31  |Q        |         |         |        V|
6+10      1.2508     0.10  Q         |         |         |        V|
6+15      1.2511     0.04  Q         |         |         |        V|
6+20      1.2512     0.01  Q         |         |         |        V|
6+25      1.2512     0.00  Q         |         |         |         V
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: devhyd242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
2-YEAR STORM
BY: JTS DATE: 03-02-23
---
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.65 | 37.82 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 6.95 | 99.18 |

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.650(In)
Area Averaged 100-Year Rainfall = 6.950(In)

Point rain (area averaged) = 2.650(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.650(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
   14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  27.6      0.779     0.159        0.668       1.000      0.668
                                                 Sum (F) =   0.668
Area averaged mean soil loss (F) (In/Hr) =  0.668
Minimum soil loss rate ((In/Hr)) =  0.334
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     0.07      0.021       (  1.184)       0.005        0.016
    2   0.17     0.07      0.021       (  1.179)       0.005        0.016
    3   0.25     0.07      0.021       (  1.174)       0.005        0.016
    4   0.33     0.10      0.032       (  1.170)       0.008        0.024
    5   0.42     0.10      0.032       (  1.165)       0.008        0.024
    6   0.50     0.10      0.032       (  1.161)       0.008        0.024
    7   0.58     0.10      0.032       (  1.156)       0.008        0.024
    8   0.67     0.10      0.032       (  1.152)       0.008        0.024
    9   0.75     0.10      0.032       (  1.147)       0.008        0.024
   10   0.83     0.13      0.042       (  1.143)       0.011        0.031
   11   0.92     0.13      0.042       (  1.138)       0.011        0.031
   12   1.00     0.13      0.042       (  1.134)       0.011        0.031
   13   1.08     0.10      0.032       (  1.129)       0.008        0.024
   14   1.17     0.10      0.032       (  1.125)       0.008        0.024
   15   1.25     0.10      0.032       (  1.120)       0.008        0.024
   16   1.33     0.10      0.032       (  1.116)       0.008        0.024
   17   1.42     0.10      0.032       (  1.111)       0.008        0.024
   18   1.50     0.10      0.032       (  1.107)       0.008        0.024
   19   1.58     0.10      0.032       (  1.103)       0.008        0.024
   20   1.67     0.10      0.032       (  1.098)       0.008        0.024
   21   1.75     0.10      0.032       (  1.094)       0.008        0.024
   22   1.83     0.13      0.042       (  1.089)       0.011        0.031
   23   1.92     0.13      0.042       (  1.085)       0.011        0.031
   24   2.00     0.13      0.042       (  1.081)       0.011        0.031
   25   2.08     0.13      0.042       (  1.076)       0.011        0.031
   26   2.17     0.13      0.042       (  1.072)       0.011        0.031
   27   2.25     0.13      0.042       (  1.068)       0.011        0.031
   28   2.33     0.13      0.042       (  1.063)       0.011        0.031
   29   2.42     0.13      0.042       (  1.059)       0.011        0.031
   30   2.50     0.13      0.042       (  1.055)       0.011        0.031
   31   2.58     0.17      0.053       (  1.050)       0.014        0.039
   32   2.67     0.17      0.053       (  1.046)       0.014        0.039
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 33 | 2.75 | 0.17 | 0.053 | ( 1.042) | 0.014 | 0.039 |
| 34 | 2.83 | 0.17 | 0.053 | ( 1.037) | 0.014 | 0.039 |
| 35 | 2.92 | 0.17 | 0.053 | ( 1.033) | 0.014 | 0.039 |
| 36 | 3.00 | 0.17 | 0.053 | ( 1.029) | 0.014 | 0.039 |
| 37 | 3.08 | 0.17 | 0.053 | ( 1.024) | 0.014 | 0.039 |
| 38 | 3.17 | 0.17 | 0.053 | ( 1.020) | 0.014 | 0.039 |
| 39 | 3.25 | 0.17 | 0.053 | ( 1.016) | 0.014 | 0.039 |
| 40 | 3.33 | 0.17 | 0.053 | ( 1.012) | 0.014 | 0.039 |
| 41 | 3.42 | 0.17 | 0.053 | ( 1.008) | 0.014 | 0.039 |
| 42 | 3.50 | 0.17 | 0.053 | ( 1.003) | 0.014 | 0.039 |
| 43 | 3.58 | 0.17 | 0.053 | ( 0.999) | 0.014 | 0.039 |
| 44 | 3.67 | 0.17 | 0.053 | ( 0.995) | 0.014 | 0.039 |
| 45 | 3.75 | 0.17 | 0.053 | ( 0.991) | 0.014 | 0.039 |
| 46 | 3.83 | 0.20 | 0.064 | ( 0.987) | 0.016 | 0.047 |
| 47 | 3.92 | 0.20 | 0.064 | ( 0.982) | 0.016 | 0.047 |
| 48 | 4.00 | 0.20 | 0.064 | ( 0.978) | 0.016 | 0.047 |
| 49 | 4.08 | 0.20 | 0.064 | ( 0.974) | 0.016 | 0.047 |
| 50 | 4.17 | 0.20 | 0.064 | ( 0.970) | 0.016 | 0.047 |
| 51 | 4.25 | 0.20 | 0.064 | ( 0.966) | 0.016 | 0.047 |
| 52 | 4.33 | 0.23 | 0.074 | ( 0.962) | 0.019 | 0.055 |
| 53 | 4.42 | 0.23 | 0.074 | ( 0.958) | 0.019 | 0.055 |
| 54 | 4.50 | 0.23 | 0.074 | ( 0.953) | 0.019 | 0.055 |
| 55 | 4.58 | 0.23 | 0.074 | ( 0.949) | 0.019 | 0.055 |
| 56 | 4.67 | 0.23 | 0.074 | ( 0.945) | 0.019 | 0.055 |
| 57 | 4.75 | 0.23 | 0.074 | ( 0.941) | 0.019 | 0.055 |
| 58 | 4.83 | 0.27 | 0.085 | ( 0.937) | 0.022 | 0.063 |
| 59 | 4.92 | 0.27 | 0.085 | ( 0.933) | 0.022 | 0.063 |
| 60 | 5.00 | 0.27 | 0.085 | ( 0.929) | 0.022 | 0.063 |
| 61 | 5.08 | 0.20 | 0.064 | ( 0.925) | 0.016 | 0.047 |
| 62 | 5.17 | 0.20 | 0.064 | ( 0.921) | 0.016 | 0.047 |
| 63 | 5.25 | 0.20 | 0.064 | ( 0.917) | 0.016 | 0.047 |
| 64 | 5.33 | 0.23 | 0.074 | ( 0.913) | 0.019 | 0.055 |
| 65 | 5.42 | 0.23 | 0.074 | ( 0.909) | 0.019 | 0.055 |
| 66 | 5.50 | 0.23 | 0.074 | ( 0.905) | 0.019 | 0.055 |
| 67 | 5.58 | 0.27 | 0.085 | ( 0.901) | 0.022 | 0.063 |
| 68 | 5.67 | 0.27 | 0.085 | ( 0.897) | 0.022 | 0.063 |
| 69 | 5.75 | 0.27 | 0.085 | ( 0.893) | 0.022 | 0.063 |
| 70 | 5.83 | 0.27 | 0.085 | ( 0.889) | 0.022 | 0.063 |
| 71 | 5.92 | 0.27 | 0.085 | ( 0.885) | 0.022 | 0.063 |
| 72 | 6.00 | 0.27 | 0.085 | ( 0.881) | 0.022 | 0.063 |
| 73 | 6.08 | 0.30 | 0.095 | ( 0.877) | 0.025 | 0.071 |
| 74 | 6.17 | 0.30 | 0.095 | ( 0.874) | 0.025 | 0.071 |
| 75 | 6.25 | 0.30 | 0.095 | ( 0.870) | 0.025 | 0.071 |
| 76 | 6.33 | 0.30 | 0.095 | ( 0.866) | 0.025 | 0.071 |
| 77 | 6.42 | 0.30 | 0.095 | ( 0.862) | 0.025 | 0.071 |
| 78 | 6.50 | 0.30 | 0.095 | ( 0.858) | 0.025 | 0.071 |
| 79 | 6.58 | 0.33 | 0.106 | ( 0.854) | 0.027 | 0.079 |
| 80 | 6.67 | 0.33 | 0.106 | ( 0.850) | 0.027 | 0.079 |
| 81 | 6.75 | 0.33 | 0.106 | ( 0.846) | 0.027 | 0.079 |
| 82 | 6.83 | 0.33 | 0.106 | ( 0.843) | 0.027 | 0.079 |
| 83 | 6.92 | 0.33 | 0.106 | ( 0.839) | 0.027 | 0.079 |
| 84 | 7.00 | 0.33 | 0.106 | ( 0.835) | 0.027 | 0.079 |
| 85 | 7.08 | 0.33 | 0.106 | ( 0.831) | 0.027 | 0.079 |
| 86 | 7.17 | 0.33 | 0.106 | ( 0.827) | 0.027 | 0.079 |
| 87 | 7.25 | 0.33 | 0.106 | ( 0.824) | 0.027 | 0.079 |
| 88 | 7.33 | 0.37 | 0.117 | ( 0.820) | 0.030 | 0.086 |
| 89 | 7.42 | 0.37 | 0.117 | ( 0.816) | 0.030 | 0.086 |
| 90 | 7.50 | 0.37 | 0.117 | ( 0.812) | 0.030 | 0.086 |
| 91 | 7.58 | 0.40 | 0.127 | ( 0.809) | 0.033 | 0.094 |
| 92 | 7.67 | 0.40 | 0.127 | ( 0.805) | 0.033 | 0.094 |
| 93 | 7.75 | 0.40 | 0.127 | ( 0.801) | 0.033 | 0.094 |
| 94 | 7.83 | 0.43 | 0.138 | ( 0.798) | 0.036 | 0.102 |
| 95 | 7.92 | 0.43 | 0.138 | ( 0.794) | 0.036 | 0.102 |
| 96 | 8.00 | 0.43 | 0.138 | ( 0.790) | 0.036 | 0.102 |
| 97 | 8.08 | 0.50 | 0.159 | ( 0.787) | 0.041 | 0.118 |
| 98 | 8.17 | 0.50 | 0.159 | ( 0.783) | 0.041 | 0.118 |
| 99 | 8.25 | 0.50 | 0.159 | ( 0.779) | 0.041 | 0.118 |
| 100 | 8.33 | 0.50 | 0.159 | ( 0.776) | 0.041 | 0.118 |
| 101 | 8.42 | 0.50 | 0.159 | ( 0.772) | 0.041 | 0.118 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 102 | 8.50 | 0.50 | 0.159 | ( 0.768) | 0.041 | 0.118 |
| 103 | 8.58 | 0.53 | 0.170 | ( 0.765) | 0.044 | 0.126 |
| 104 | 8.67 | 0.53 | 0.170 | ( 0.761) | 0.044 | 0.126 |
| 105 | 8.75 | 0.53 | 0.170 | ( 0.758) | 0.044 | 0.126 |
| 106 | 8.83 | 0.57 | 0.180 | ( 0.754) | 0.047 | 0.134 |
| 107 | 8.92 | 0.57 | 0.180 | ( 0.750) | 0.047 | 0.134 |
| 108 | 9.00 | 0.57 | 0.180 | ( 0.747) | 0.047 | 0.134 |
| 109 | 9.08 | 0.63 | 0.201 | ( 0.743) | 0.052 | 0.149 |
| 110 | 9.17 | 0.63 | 0.201 | ( 0.740) | 0.052 | 0.149 |
| 111 | 9.25 | 0.63 | 0.201 | ( 0.736) | 0.052 | 0.149 |
| 112 | 9.33 | 0.67 | 0.212 | ( 0.733) | 0.055 | 0.157 |
| 113 | 9.42 | 0.67 | 0.212 | ( 0.729) | 0.055 | 0.157 |
| 114 | 9.50 | 0.67 | 0.212 | ( 0.726) | 0.055 | 0.157 |
| 115 | 9.58 | 0.70 | 0.223 | ( 0.722) | 0.058 | 0.165 |
| 116 | 9.67 | 0.70 | 0.223 | ( 0.719) | 0.058 | 0.165 |
| 117 | 9.75 | 0.70 | 0.223 | ( 0.715) | 0.058 | 0.165 |
| 118 | 9.83 | 0.73 | 0.233 | ( 0.712) | 0.060 | 0.173 |
| 119 | 9.92 | 0.73 | 0.233 | ( 0.709) | 0.060 | 0.173 |
| 120 | 10.00 | 0.73 | 0.233 | ( 0.705) | 0.060 | 0.173 |
| 121 | 10.08 | 0.50 | 0.159 | ( 0.702) | 0.041 | 0.118 |
| 122 | 10.17 | 0.50 | 0.159 | ( 0.698) | 0.041 | 0.118 |
| 123 | 10.25 | 0.50 | 0.159 | ( 0.695) | 0.041 | 0.118 |
| 124 | 10.33 | 0.50 | 0.159 | ( 0.692) | 0.041 | 0.118 |
| 125 | 10.42 | 0.50 | 0.159 | ( 0.688) | 0.041 | 0.118 |
| 126 | 10.50 | 0.50 | 0.159 | ( 0.685) | 0.041 | 0.118 |
| 127 | 10.58 | 0.67 | 0.212 | ( 0.681) | 0.055 | 0.157 |
| 128 | 10.67 | 0.67 | 0.212 | ( 0.678) | 0.055 | 0.157 |
| 129 | 10.75 | 0.67 | 0.212 | ( 0.675) | 0.055 | 0.157 |
| 130 | 10.83 | 0.67 | 0.212 | ( 0.672) | 0.055 | 0.157 |
| 131 | 10.92 | 0.67 | 0.212 | ( 0.668) | 0.055 | 0.157 |
| 132 | 11.00 | 0.67 | 0.212 | ( 0.665) | 0.055 | 0.157 |
| 133 | 11.08 | 0.63 | 0.201 | ( 0.662) | 0.052 | 0.149 |
| 134 | 11.17 | 0.63 | 0.201 | ( 0.658) | 0.052 | 0.149 |
| 135 | 11.25 | 0.63 | 0.201 | ( 0.655) | 0.052 | 0.149 |
| 136 | 11.33 | 0.63 | 0.201 | ( 0.652) | 0.052 | 0.149 |
| 137 | 11.42 | 0.63 | 0.201 | ( 0.649) | 0.052 | 0.149 |
| 138 | 11.50 | 0.63 | 0.201 | ( 0.645) | 0.052 | 0.149 |
| 139 | 11.58 | 0.57 | 0.180 | ( 0.642) | 0.047 | 0.134 |
| 140 | 11.67 | 0.57 | 0.180 | ( 0.639) | 0.047 | 0.134 |
| 141 | 11.75 | 0.57 | 0.180 | ( 0.636) | 0.047 | 0.134 |
| 142 | 11.83 | 0.60 | 0.191 | ( 0.633) | 0.049 | 0.141 |
| 143 | 11.92 | 0.60 | 0.191 | ( 0.630) | 0.049 | 0.141 |
| 144 | 12.00 | 0.60 | 0.191 | ( 0.626) | 0.049 | 0.141 |
| 145 | 12.08 | 0.83 | 0.265 | ( 0.623) | 0.069 | 0.196 |
| 146 | 12.17 | 0.83 | 0.265 | ( 0.620) | 0.069 | 0.196 |
| 147 | 12.25 | 0.83 | 0.265 | ( 0.617) | 0.069 | 0.196 |
| 148 | 12.33 | 0.87 | 0.276 | ( 0.614) | 0.071 | 0.204 |
| 149 | 12.42 | 0.87 | 0.276 | ( 0.611) | 0.071 | 0.204 |
| 150 | 12.50 | 0.87 | 0.276 | ( 0.608) | 0.071 | 0.204 |
| 151 | 12.58 | 0.93 | 0.297 | ( 0.605) | 0.077 | 0.220 |
| 152 | 12.67 | 0.93 | 0.297 | ( 0.602) | 0.077 | 0.220 |
| 153 | 12.75 | 0.93 | 0.297 | ( 0.599) | 0.077 | 0.220 |
| 154 | 12.83 | 0.97 | 0.307 | ( 0.596) | 0.080 | 0.228 |
| 155 | 12.92 | 0.97 | 0.307 | ( 0.593) | 0.080 | 0.228 |
| 156 | 13.00 | 0.97 | 0.307 | ( 0.590) | 0.080 | 0.228 |
| 157 | 13.08 | 1.13 | 0.360 | ( 0.587) | 0.093 | 0.267 |
| 158 | 13.17 | 1.13 | 0.360 | ( 0.584) | 0.093 | 0.267 |
| 159 | 13.25 | 1.13 | 0.360 | ( 0.581) | 0.093 | 0.267 |
| 160 | 13.33 | 1.13 | 0.360 | ( 0.578) | 0.093 | 0.267 |
| 161 | 13.42 | 1.13 | 0.360 | ( 0.575) | 0.093 | 0.267 |
| 162 | 13.50 | 1.13 | 0.360 | ( 0.572) | 0.093 | 0.267 |
| 163 | 13.58 | 0.77 | 0.244 | ( 0.569) | 0.063 | 0.181 |
| 164 | 13.67 | 0.77 | 0.244 | ( 0.566) | 0.063 | 0.181 |
| 165 | 13.75 | 0.77 | 0.244 | ( 0.563) | 0.063 | 0.181 |
| 166 | 13.83 | 0.77 | 0.244 | ( 0.560) | 0.063 | 0.181 |
| 167 | 13.92 | 0.77 | 0.244 | ( 0.557) | 0.063 | 0.181 |
| 168 | 14.00 | 0.77 | 0.244 | ( 0.555) | 0.063 | 0.181 |
| 169 | 14.08 | 0.90 | 0.286 | ( 0.552) | 0.074 | 0.212 |
| 170 | 14.17 | 0.90 | 0.286 | ( 0.549) | 0.074 | 0.212 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 171 | 14.25 | 0.90 | 0.286 | ( | 0.546) | 0.074 | 0.212 |
| 172 | 14.33 | 0.87 | 0.276 | ( | 0.543) | 0.071 | 0.204 |
| 173 | 14.42 | 0.87 | 0.276 | ( | 0.541) | 0.071 | 0.204 |
| 174 | 14.50 | 0.87 | 0.276 | ( | 0.538) | 0.071 | 0.204 |
| 175 | 14.58 | 0.87 | 0.276 | ( | 0.535) | 0.071 | 0.204 |
| 176 | 14.67 | 0.87 | 0.276 | ( | 0.532) | 0.071 | 0.204 |
| 177 | 14.75 | 0.87 | 0.276 | ( | 0.530) | 0.071 | 0.204 |
| 178 | 14.83 | 0.83 | 0.265 | ( | 0.527) | 0.069 | 0.196 |
| 179 | 14.92 | 0.83 | 0.265 | ( | 0.524) | 0.069 | 0.196 |
| 180 | 15.00 | 0.83 | 0.265 | ( | 0.521) | 0.069 | 0.196 |
| 181 | 15.08 | 0.80 | 0.254 | ( | 0.519) | 0.066 | 0.189 |
| 182 | 15.17 | 0.80 | 0.254 | ( | 0.516) | 0.066 | 0.189 |
| 183 | 15.25 | 0.80 | 0.254 | ( | 0.514) | 0.066 | 0.189 |
| 184 | 15.33 | 0.77 | 0.244 | ( | 0.511) | 0.063 | 0.181 |
| 185 | 15.42 | 0.77 | 0.244 | ( | 0.508) | 0.063 | 0.181 |
| 186 | 15.50 | 0.77 | 0.244 | ( | 0.506) | 0.063 | 0.181 |
| 187 | 15.58 | 0.63 | 0.201 | ( | 0.503) | 0.052 | 0.149 |
| 188 | 15.67 | 0.63 | 0.201 | ( | 0.500) | 0.052 | 0.149 |
| 189 | 15.75 | 0.63 | 0.201 | ( | 0.498) | 0.052 | 0.149 |
| 190 | 15.83 | 0.63 | 0.201 | ( | 0.495) | 0.052 | 0.149 |
| 191 | 15.92 | 0.63 | 0.201 | ( | 0.493) | 0.052 | 0.149 |
| 192 | 16.00 | 0.63 | 0.201 | ( | 0.490) | 0.052 | 0.149 |
| 193 | 16.08 | 0.13 | 0.042 | ( | 0.488) | 0.011 | 0.031 |
| 194 | 16.17 | 0.13 | 0.042 | ( | 0.485) | 0.011 | 0.031 |
| 195 | 16.25 | 0.13 | 0.042 | ( | 0.483) | 0.011 | 0.031 |
| 196 | 16.33 | 0.13 | 0.042 | ( | 0.480) | 0.011 | 0.031 |
| 197 | 16.42 | 0.13 | 0.042 | ( | 0.478) | 0.011 | 0.031 |
| 198 | 16.50 | 0.13 | 0.042 | ( | 0.476) | 0.011 | 0.031 |
| 199 | 16.58 | 0.10 | 0.032 | ( | 0.473) | 0.008 | 0.024 |
| 200 | 16.67 | 0.10 | 0.032 | ( | 0.471) | 0.008 | 0.024 |
| 201 | 16.75 | 0.10 | 0.032 | ( | 0.468) | 0.008 | 0.024 |
| 202 | 16.83 | 0.10 | 0.032 | ( | 0.466) | 0.008 | 0.024 |
| 203 | 16.92 | 0.10 | 0.032 | ( | 0.464) | 0.008 | 0.024 |
| 204 | 17.00 | 0.10 | 0.032 | ( | 0.461) | 0.008 | 0.024 |
| 205 | 17.08 | 0.17 | 0.053 | ( | 0.459) | 0.014 | 0.039 |
| 206 | 17.17 | 0.17 | 0.053 | ( | 0.457) | 0.014 | 0.039 |
| 207 | 17.25 | 0.17 | 0.053 | ( | 0.454) | 0.014 | 0.039 |
| 208 | 17.33 | 0.17 | 0.053 | ( | 0.452) | 0.014 | 0.039 |
| 209 | 17.42 | 0.17 | 0.053 | ( | 0.450) | 0.014 | 0.039 |
| 210 | 17.50 | 0.17 | 0.053 | ( | 0.447) | 0.014 | 0.039 |
| 211 | 17.58 | 0.17 | 0.053 | ( | 0.445) | 0.014 | 0.039 |
| 212 | 17.67 | 0.17 | 0.053 | ( | 0.443) | 0.014 | 0.039 |
| 213 | 17.75 | 0.17 | 0.053 | ( | 0.441) | 0.014 | 0.039 |
| 214 | 17.83 | 0.13 | 0.042 | ( | 0.439) | 0.011 | 0.031 |
| 215 | 17.92 | 0.13 | 0.042 | ( | 0.436) | 0.011 | 0.031 |
| 216 | 18.00 | 0.13 | 0.042 | ( | 0.434) | 0.011 | 0.031 |
| 217 | 18.08 | 0.13 | 0.042 | ( | 0.432) | 0.011 | 0.031 |
| 218 | 18.17 | 0.13 | 0.042 | ( | 0.430) | 0.011 | 0.031 |
| 219 | 18.25 | 0.13 | 0.042 | ( | 0.428) | 0.011 | 0.031 |
| 220 | 18.33 | 0.13 | 0.042 | ( | 0.426) | 0.011 | 0.031 |
| 221 | 18.42 | 0.13 | 0.042 | ( | 0.424) | 0.011 | 0.031 |
| 222 | 18.50 | 0.13 | 0.042 | ( | 0.422) | 0.011 | 0.031 |
| 223 | 18.58 | 0.10 | 0.032 | ( | 0.420) | 0.008 | 0.024 |
| 224 | 18.67 | 0.10 | 0.032 | ( | 0.418) | 0.008 | 0.024 |
| 225 | 18.75 | 0.10 | 0.032 | ( | 0.416) | 0.008 | 0.024 |
| 226 | 18.83 | 0.07 | 0.021 | ( | 0.414) | 0.005 | 0.016 |
| 227 | 18.92 | 0.07 | 0.021 | ( | 0.412) | 0.005 | 0.016 |
| 228 | 19.00 | 0.07 | 0.021 | ( | 0.410) | 0.005 | 0.016 |
| 229 | 19.08 | 0.10 | 0.032 | ( | 0.408) | 0.008 | 0.024 |
| 230 | 19.17 | 0.10 | 0.032 | ( | 0.406) | 0.008 | 0.024 |
| 231 | 19.25 | 0.10 | 0.032 | ( | 0.404) | 0.008 | 0.024 |
| 232 | 19.33 | 0.13 | 0.042 | ( | 0.402) | 0.011 | 0.031 |
| 233 | 19.42 | 0.13 | 0.042 | ( | 0.400) | 0.011 | 0.031 |
| 234 | 19.50 | 0.13 | 0.042 | ( | 0.398) | 0.011 | 0.031 |
| 235 | 19.58 | 0.10 | 0.032 | ( | 0.397) | 0.008 | 0.024 |
| 236 | 19.67 | 0.10 | 0.032 | ( | 0.395) | 0.008 | 0.024 |
| 237 | 19.75 | 0.10 | 0.032 | ( | 0.393) | 0.008 | 0.024 |
| 238 | 19.83 | 0.07 | 0.021 | ( | 0.391) | 0.005 | 0.016 |
| 239 | 19.92 | 0.07 | 0.021 | ( | 0.389) | 0.005 | 0.016 |

```
240  20.00     0.07      0.021       (  0.388)       0.005        0.016
241  20.08     0.10      0.032       (  0.386)       0.008        0.024
242  20.17     0.10      0.032       (  0.384)       0.008        0.024
243  20.25     0.10      0.032       (  0.383)       0.008        0.024
244  20.33     0.10      0.032       (  0.381)       0.008        0.024
245  20.42     0.10      0.032       (  0.379)       0.008        0.024
246  20.50     0.10      0.032       (  0.378)       0.008        0.024
247  20.58     0.10      0.032       (  0.376)       0.008        0.024
248  20.67     0.10      0.032       (  0.375)       0.008        0.024
249  20.75     0.10      0.032       (  0.373)       0.008        0.024
250  20.83     0.07      0.021       (  0.372)       0.005        0.016
251  20.92     0.07      0.021       (  0.370)       0.005        0.016
252  21.00     0.07      0.021       (  0.369)       0.005        0.016
253  21.08     0.10      0.032       (  0.367)       0.008        0.024
254  21.17     0.10      0.032       (  0.366)       0.008        0.024
255  21.25     0.10      0.032       (  0.364)       0.008        0.024
256  21.33     0.07      0.021       (  0.363)       0.005        0.016
257  21.42     0.07      0.021       (  0.361)       0.005        0.016
258  21.50     0.07      0.021       (  0.360)       0.005        0.016
259  21.58     0.10      0.032       (  0.359)       0.008        0.024
260  21.67     0.10      0.032       (  0.357)       0.008        0.024
261  21.75     0.10      0.032       (  0.356)       0.008        0.024
262  21.83     0.07      0.021       (  0.355)       0.005        0.016
263  21.92     0.07      0.021       (  0.354)       0.005        0.016
264  22.00     0.07      0.021       (  0.353)       0.005        0.016
265  22.08     0.10      0.032       (  0.351)       0.008        0.024
266  22.17     0.10      0.032       (  0.350)       0.008        0.024
267  22.25     0.10      0.032       (  0.349)       0.008        0.024
268  22.33     0.07      0.021       (  0.348)       0.005        0.016
269  22.42     0.07      0.021       (  0.347)       0.005        0.016
270  22.50     0.07      0.021       (  0.346)       0.005        0.016
271  22.58     0.07      0.021       (  0.345)       0.005        0.016
272  22.67     0.07      0.021       (  0.344)       0.005        0.016
273  22.75     0.07      0.021       (  0.343)       0.005        0.016
274  22.83     0.07      0.021       (  0.342)       0.005        0.016
275  22.92     0.07      0.021       (  0.341)       0.005        0.016
276  23.00     0.07      0.021       (  0.340)       0.005        0.016
277  23.08     0.07      0.021       (  0.340)       0.005        0.016
278  23.17     0.07      0.021       (  0.339)       0.005        0.016
279  23.25     0.07      0.021       (  0.338)       0.005        0.016
280  23.33     0.07      0.021       (  0.337)       0.005        0.016
281  23.42     0.07      0.021       (  0.337)       0.005        0.016
282  23.50     0.07      0.021       (  0.336)       0.005        0.016
283  23.58     0.07      0.021       (  0.336)       0.005        0.016
284  23.67     0.07      0.021       (  0.335)       0.005        0.016
285  23.75     0.07      0.021       (  0.335)       0.005        0.016
286  23.83     0.07      0.021       (  0.334)       0.005        0.016
287  23.92     0.07      0.021       (  0.334)       0.005        0.016
288  24.00     0.07      0.021       (  0.334)       0.005        0.016
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    23.6
       Flood volume = Effective rainfall      1.96(In)
        times area      14.3(Ac.)/[(In)/(Ft.)] =       2.3(Ac.Ft)
       Total soil loss =      0.69(In)
       Total soil loss =     0.816(Ac.Ft)
       Total rainfall =      2.65(In)
       Flood volume =      101714.4 Cubic Feet
       Total soil loss =       35552.0 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.843(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           24 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 0+ 5 | 0.0005 | 0.08 | Q | | | |
| 0+10 | 0.0018 | 0.18 | Q | | | |
| 0+15 | 0.0032 | 0.21 | Q | | | |
| 0+20 | 0.0050 | 0.26 | VQ | | | |
| 0+25 | 0.0072 | 0.32 | VQ | | | |
| 0+30 | 0.0095 | 0.33 | VQ | | | |
| 0+35 | 0.0118 | 0.34 | VQ | | | |
| 0+40 | 0.0141 | 0.34 | VQ | | | |
| 0+45 | 0.0164 | 0.34 | VQ | | | |
| 0+50 | 0.0191 | 0.38 | VQ | | | |
| 0+55 | 0.0220 | 0.43 | VQ | | | |
| 1+ 0 | 0.0251 | 0.44 | VQ | | | |
| 1+ 5 | 0.0279 | 0.41 | VQ | | | |
| 1+10 | 0.0304 | 0.36 | VQ | | | |
| 1+15 | 0.0328 | 0.35 | VQ | | | |
| 1+20 | 0.0351 | 0.34 | VQ | | | |
| 1+25 | 0.0375 | 0.34 | VQ | | | |
| 1+30 | 0.0398 | 0.34 | VQ | | | |
| 1+35 | 0.0421 | 0.34 | VQ | | | |
| 1+40 | 0.0445 | 0.34 | VQ | | | |
| 1+45 | 0.0468 | 0.34 | VQ | | | |
| 1+50 | 0.0494 | 0.38 | VQ | | | |
| 1+55 | 0.0524 | 0.43 | VQ | | | |
| 2+ 0 | 0.0554 | 0.44 | VQ | | | |
| 2+ 5 | 0.0585 | 0.45 | \|Q | | | |
| 2+10 | 0.0616 | 0.45 | \|Q | | | |
| 2+15 | 0.0647 | 0.45 | \|Q | | | |
| 2+20 | 0.0679 | 0.45 | \|Q | | | |
| 2+25 | 0.0710 | 0.45 | \|Q | | | |
| 2+30 | 0.0741 | 0.45 | \|Q | | | |
| 2+35 | 0.0775 | 0.49 | \|Q | | | |
| 2+40 | 0.0812 | 0.54 | \|VQ | | | |
| 2+45 | 0.0850 | 0.56 | \|VQ | | | |
| 2+50 | 0.0889 | 0.56 | \|VQ | | | |
| 2+55 | 0.0928 | 0.56 | \|VQ | | | |
| 3+ 0 | 0.0967 | 0.57 | \|VQ | | | |
| 3+ 5 | 0.1006 | 0.57 | \|VQ | | | |
| 3+10 | 0.1045 | 0.57 | \|VQ | | | |
| 3+15 | 0.1084 | 0.57 | \|VQ | | | |
| 3+20 | 0.1123 | 0.57 | \|VQ | | | |
| 3+25 | 0.1161 | 0.57 | \|VQ | | | |
| 3+30 | 0.1200 | 0.57 | \| Q | | | |
| 3+35 | 0.1239 | 0.57 | \| Q | | | |
| 3+40 | 0.1278 | 0.57 | \| Q | | | |
| 3+45 | 0.1317 | 0.57 | \| Q | | | |
| 3+50 | 0.1359 | 0.60 | \| Q | | | |
| 3+55 | 0.1404 | 0.66 | \| Q | | | |
| 4+ 0 | 0.1450 | 0.67 | \| Q | | | |
| 4+ 5 | 0.1497 | 0.67 | \| Q | | | |
| 4+10 | 0.1543 | 0.68 | \| Q | | | |
| 4+15 | 0.1590 | 0.68 | \| Q | | | |
| 4+20 | 0.1639 | 0.72 | \| Q | | | |
| 4+25 | 0.1692 | 0.77 | \| VQ | | | |
| 4+30 | 0.1746 | 0.78 | \| VQ | | | |
| 4+35 | 0.1800 | 0.79 | \|  Q | | | |
| 4+40 | 0.1855 | 0.79 | \|  Q | | | |
| 4+45 | 0.1909 | 0.79 | \|  Q | | | |
| 4+50 | 0.1967 | 0.83 | \|  Q | | | |
| 4+55 | 0.2027 | 0.88 | \|  Q | | | |
| 5+ 0 | 0.2089 | 0.90 | \|  Q | | | |
| 5+ 5 | 0.2146 | 0.82 | \|  Q | | | |
| 5+10 | 0.2195 | 0.72 | \| QV | | | |
| 5+15 | 0.2243 | 0.70 | \| QV | | | |
| 5+20 | 0.2293 | 0.72 | \| QV | | | |
| 5+25 | 0.2346 | 0.77 | \|  QV | | | |
| 5+30 | 0.2400 | 0.78 | \|  QV | | | |
| 5+35 | 0.2457 | 0.83 | \|  QV | | | |
| 5+40 | 0.2518 | 0.88 | \|  QV | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5+45 | 0.2579 | 0.90 | QV | | | |
| 5+50 | 0.2641 | 0.90 | QV | | | |
| 5+55 | 0.2704 | 0.90 | QV | | | |
| 6+ 0 | 0.2766 | 0.90 | QV | | | |
| 6+ 5 | 0.2831 | 0.94 | QV | | | |
| 6+10 | 0.2899 | 1.00 | QV | | | |
| 6+15 | 0.2969 | 1.01 | QV | | | |
| 6+20 | 0.3039 | 1.01 | QV | | | |
| 6+25 | 0.3109 | 1.02 | QV | | | |
| 6+30 | 0.3179 | 1.02 | QV | | | |
| 6+35 | 0.3252 | 1.06 | QV | | | |
| 6+40 | 0.3328 | 1.11 | QV | | | |
| 6+45 | 0.3405 | 1.12 | QV | | | |
| 6+50 | 0.3483 | 1.13 | QV | | | |
| 6+55 | 0.3560 | 1.13 | Q V | | | |
| 7+ 0 | 0.3638 | 1.13 | Q V | | | |
| 7+ 5 | 0.3716 | 1.13 | Q V | | | |
| 7+10 | 0.3794 | 1.13 | Q V | | | |
| 7+15 | 0.3872 | 1.13 | Q V | | | |
| 7+20 | 0.3952 | 1.17 | Q V | | | |
| 7+25 | 0.4037 | 1.22 | Q V | | | |
| 7+30 | 0.4122 | 1.23 | Q V | | | |
| 7+35 | 0.4210 | 1.28 | Q V | | | |
| 7+40 | 0.4302 | 1.33 | Q V | | | |
| 7+45 | 0.4394 | 1.35 | Q V | | | |
| 7+50 | 0.4490 | 1.39 | Q V | | | |
| 7+55 | 0.4590 | 1.45 | Q V | | | |
| 8+ 0 | 0.4690 | 1.46 | Q V | | | |
| 8+ 5 | 0.4797 | 1.54 | Q V | | | |
| 8+10 | 0.4911 | 1.65 | Q V | | | |
| 8+15 | 0.5026 | 1.68 | Q V | | | |
| 8+20 | 0.5142 | 1.69 | Q V | | | |
| 8+25 | 0.5259 | 1.69 | Q V | | | |
| 8+30 | 0.5376 | 1.70 | Q V | | | |
| 8+35 | 0.5495 | 1.73 | Q V | | | |
| 8+40 | 0.5618 | 1.79 | Q V | | | |
| 8+45 | 0.5742 | 1.80 | Q V | | | |
| 8+50 | 0.5869 | 1.84 | Q V | | | |
| 8+55 | 0.6000 | 1.90 | Q V | | | |
| 9+ 0 | 0.6132 | 1.91 | Q V | | | |
| 9+ 5 | 0.6269 | 2.00 | Q V | | | |
| 9+10 | 0.6414 | 2.10 | Q V | | | |
| 9+15 | 0.6561 | 2.13 | Q V | | | |
| 9+20 | 0.6711 | 2.18 | Q V | | | |
| 9+25 | 0.6865 | 2.24 | Q V | | | |
| 9+30 | 0.7020 | 2.25 | Q V | | | |
| 9+35 | 0.7178 | 2.30 | Q V | | | |
| 9+40 | 0.7340 | 2.35 | Q V | | | |
| 9+45 | 0.7503 | 2.36 | Q V | | | |
| 9+50 | 0.7669 | 2.41 | Q V | | | |
| 9+55 | 0.7839 | 2.46 | Q V | | | |
| 10+ 0 | 0.8009 | 2.48 | Q V | | | |
| 10+ 5 | 0.8161 | 2.21 | Q V | | | |
| 10+10 | 0.8288 | 1.84 | Q V | | | |
| 10+15 | 0.8409 | 1.76 | Q V | | | |
| 10+20 | 0.8528 | 1.72 | Q V | | | |
| 10+25 | 0.8645 | 1.70 | Q V | | | |
| 10+30 | 0.8762 | 1.70 | Q V | | | |
| 10+35 | 0.8892 | 1.89 | Q V | | | |
| 10+40 | 0.9040 | 2.16 | Q V | | | |
| 10+45 | 0.9193 | 2.22 | Q V | | | |
| 10+50 | 0.9347 | 2.24 | Q V | | | |
| 10+55 | 0.9503 | 2.26 | Q V | | | |
| 11+ 0 | 0.9658 | 2.26 | Q V | | | |
| 11+ 5 | 0.9811 | 2.22 | Q V | | | |
| 11+10 | 0.9961 | 2.17 | Q V | | | |
| 11+15 | 1.0109 | 2.16 | Q V | | | |
| 11+20 | 1.0257 | 2.15 | Q V | | | |
| 11+25 | 1.0405 | 2.15 | Q V | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11+30 | 1.0553 | 2.15 | | Q | | V | |
| 11+35 | 1.0696 | 2.07 | | Q | | V | |
| 11+40 | 1.0831 | 1.96 | | Q | | V | |
| 11+45 | 1.0964 | 1.94 | | Q | | V | |
| 11+50 | 1.1100 | 1.97 | | Q | | V | |
| 11+55 | 1.1239 | 2.02 | | Q | | V | |
| 12+ 0 | 1.1378 | 2.03 | | Q | | V | |
| 12+ 5 | 1.1537 | 2.31 | | Q | | V | |
| 12+10 | 1.1721 | 2.68 | | Q | | V | |
| 12+15 | 1.1912 | 2.76 | | Q | | V | |
| 12+20 | 1.2107 | 2.84 | | Q | | V | |
| 12+25 | 1.2308 | 2.91 | | Q | | V | |
| 12+30 | 1.2509 | 2.93 | | Q | | V | |
| 12+35 | 1.2717 | 3.01 | | Q | | V | |
| 12+40 | 1.2932 | 3.12 | | Q | | V | |
| 12+45 | 1.3149 | 3.15 | | Q | | V | |
| 12+50 | 1.3369 | 3.20 | | Q | | V | |
| 12+55 | 1.3593 | 3.25 | | Q | | V | |
| 13+ 0 | 1.3818 | 3.27 | | Q | | V | |
| 13+ 5 | 1.4057 | 3.47 | | Q | | V | |
| 13+10 | 1.4315 | 3.74 | | Q | | V | |
| 13+15 | 1.4576 | 3.80 | | Q | | V | |
| 13+20 | 1.4839 | 3.82 | | Q | | V | |
| 13+25 | 1.5104 | 3.84 | | Q | | V | |
| 13+30 | 1.5368 | 3.84 | | Q | | V | |
| 13+35 | 1.5603 | 3.41 | | Q | | V | |
| 13+40 | 1.5798 | 2.83 | | Q | | V | |
| 13+45 | 1.5984 | 2.70 | | Q | | V | |
| 13+50 | 1.6166 | 2.64 | | Q | | V | |
| 13+55 | 1.6345 | 2.61 | | Q | | V | |
| 14+ 0 | 1.6524 | 2.60 | | Q | | V | |
| 14+ 5 | 1.6714 | 2.76 | | Q | | V | |
| 14+10 | 1.6919 | 2.97 | | Q | | V | |
| 14+15 | 1.7126 | 3.02 | | Q | | V | |
| 14+20 | 1.7333 | 3.00 | | Q | | V | |
| 14+25 | 1.7536 | 2.96 | | Q | | V | |
| 14+30 | 1.7739 | 2.95 | | Q | | V | |
| 14+35 | 1.7942 | 2.94 | | Q | | V | |
| 14+40 | 1.8144 | 2.94 | | Q | | V | |
| 14+45 | 1.8347 | 2.94 | | Q | | V | |
| 14+50 | 1.8546 | 2.90 | | Q | | V | |
| 14+55 | 1.8742 | 2.85 | | Q | | V | |
| 15+ 0 | 1.8938 | 2.83 | | Q | | V | |
| 15+ 5 | 1.9130 | 2.79 | | Q | | V | |
| 15+10 | 1.9318 | 2.73 | | Q | | V | |
| 15+15 | 1.9505 | 2.72 | | Q | | V | |
| 15+20 | 1.9690 | 2.68 | | Q | | V | |
| 15+25 | 1.9870 | 2.62 | | Q | | V | |
| 15+30 | 2.0050 | 2.61 | | Q | | V | |
| 15+35 | 2.0218 | 2.45 | | Q | | V | |
| 15+40 | 2.0372 | 2.23 | | Q | | V | |
| 15+45 | 2.0522 | 2.18 | | Q | | V | |
| 15+50 | 2.0671 | 2.16 | | Q | | V | |
| 15+55 | 2.0819 | 2.15 | | Q | | V | |
| 16+ 0 | 2.0967 | 2.15 | | Q | | V | |
| 16+ 5 | 2.1074 | 1.56 | | Q | | V | |
| 16+10 | 2.1127 | 0.77 | Q | | | V | |
| 16+15 | 2.1168 | 0.59 | Q | | | V | |
| 16+20 | 2.1202 | 0.51 | Q | | | V | |
| 16+25 | 2.1235 | 0.47 | Q | | | V | |
| 16+30 | 2.1266 | 0.45 | Q | | | V | |
| 16+35 | 2.1294 | 0.41 | Q | | | V | |
| 16+40 | 2.1319 | 0.36 | Q | | | V | |
| 16+45 | 2.1343 | 0.35 | Q | | | V | |
| 16+50 | 2.1367 | 0.34 | Q | | | V | |
| 16+55 | 2.1390 | 0.34 | Q | | | V | |
| 17+ 0 | 2.1413 | 0.34 | Q | | | V | |
| 17+ 5 | 2.1442 | 0.42 | Q | | | V | |
| 17+10 | 2.1478 | 0.52 | Q | | | V | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+15 | 2.1516 | 0.55 | \| Q | \| | \| | \| | V \| |
| 17+20 | 2.1554 | 0.56 | \| Q | \| | \| | \| | V \| |
| 17+25 | 2.1593 | 0.56 | \| Q | \| | \| | \| | V \| |
| 17+30 | 2.1632 | 0.57 | \| Q | \| | \| | \| | V \| |
| 17+35 | 2.1671 | 0.57 | \| Q | \| | \| | \| | V \| |
| 17+40 | 2.1710 | 0.57 | \| Q | \| | \| | \| | V \| |
| 17+45 | 2.1749 | 0.57 | \| Q | \| | \| | \| | V \| |
| 17+50 | 2.1785 | 0.53 | \| Q | \| | \| | \| | V \| |
| 17+55 | 2.1818 | 0.47 | \|Q | \| | \| | \| | V \| |
| 18+ 0 | 2.1849 | 0.46 | \|Q | \| | \| | \| | V \| |
| 18+ 5 | 2.1881 | 0.46 | \|Q | \| | \| | \| | V \| |
| 18+10 | 2.1912 | 0.45 | \|Q | \| | \| | \| | V \| |
| 18+15 | 2.1943 | 0.45 | \|Q | \| | \| | \| | V \| |
| 18+20 | 2.1974 | 0.45 | \|Q | \| | \| | \| | V \| |
| 18+25 | 2.2005 | 0.45 | \|Q | \| | \| | \| | V \| |
| 18+30 | 2.2036 | 0.45 | \|Q | \| | \| | \| | V \| |
| 18+35 | 2.2065 | 0.41 | \|Q | \| | \| | \| | V \| |
| 18+40 | 2.2090 | 0.36 | \|Q | \| | \| | \| | V \| |
| 18+45 | 2.2114 | 0.35 | \|Q | \| | \| | \| | V \| |
| 18+50 | 2.2134 | 0.30 | \|Q | \| | \| | \| | V \| |
| 18+55 | 2.2152 | 0.25 | Q | \| | \| | \| | V \| |
| 19+ 0 | 2.2168 | 0.23 | Q | \| | \| | \| | V \| |
| 19+ 5 | 2.2186 | 0.27 | \|Q | \| | \| | \| | V \| |
| 19+10 | 2.2208 | 0.32 | \|Q | \| | \| | \| | V \| |
| 19+15 | 2.2231 | 0.33 | \|Q | \| | \| | \| | V \| |
| 19+20 | 2.2257 | 0.37 | \|Q | \| | \| | \| | V \| |
| 19+25 | 2.2286 | 0.43 | \|Q | \| | \| | \| | V \| |
| 19+30 | 2.2317 | 0.44 | \|Q | \| | \| | \| | V \| |
| 19+35 | 2.2345 | 0.41 | \|Q | \| | \| | \| | V \| |
| 19+40 | 2.2370 | 0.36 | \|Q | \| | \| | \| | V \| |
| 19+45 | 2.2394 | 0.35 | \|Q | \| | \| | \| | V \| |
| 19+50 | 2.2415 | 0.30 | \|Q | \| | \| | \| | V \| |
| 19+55 | 2.2432 | 0.25 | Q | \| | \| | \| | V \| |
| 20+ 0 | 2.2448 | 0.23 | Q | \| | \| | \| | V \| |
| 20+ 5 | 2.2466 | 0.27 | \|Q | \| | \| | \| | V \| |
| 20+10 | 2.2488 | 0.32 | \|Q | \| | \| | \| | V \| |
| 20+15 | 2.2511 | 0.33 | \|Q | \| | \| | \| | V \| |
| 20+20 | 2.2534 | 0.34 | \|Q | \| | \| | \| | V \| |
| 20+25 | 2.2558 | 0.34 | \|Q | \| | \| | \| | V \| |
| 20+30 | 2.2581 | 0.34 | \|Q | \| | \| | \| | V \| |
| 20+35 | 2.2604 | 0.34 | \|Q | \| | \| | \| | V \| |
| 20+40 | 2.2628 | 0.34 | \|Q | \| | \| | \| | V \| |
| 20+45 | 2.2651 | 0.34 | \|Q | \| | \| | \| | V \| |
| 20+50 | 2.2672 | 0.30 | \|Q | \| | \| | \| | V \| |
| 20+55 | 2.2689 | 0.25 | Q | \| | \| | \| | V \| |
| 21+ 0 | 2.2705 | 0.23 | Q | \| | \| | \| | V \| |
| 21+ 5 | 2.2723 | 0.27 | \|Q | \| | \| | \| | V \| |
| 21+10 | 2.2745 | 0.32 | \|Q | \| | \| | \| | V \| |
| 21+15 | 2.2768 | 0.33 | \|Q | \| | \| | \| | V\| |
| 21+20 | 2.2788 | 0.30 | \|Q | \| | \| | \| | V\| |
| 21+25 | 2.2805 | 0.25 | Q | \| | \| | \| | V\| |
| 21+30 | 2.2822 | 0.23 | Q | \| | \| | \| | V\| |
| 21+35 | 2.2840 | 0.27 | \|Q | \| | \| | \| | V\| |
| 21+40 | 2.2862 | 0.32 | \|Q | \| | \| | \| | V\| |
| 21+45 | 2.2885 | 0.33 | \|Q | \| | \| | \| | V\| |
| 21+50 | 2.2905 | 0.30 | \|Q | \| | \| | \| | V\| |
| 21+55 | 2.2922 | 0.25 | Q | \| | \| | \| | V\| |
| 22+ 0 | 2.2938 | 0.23 | Q | \| | \| | \| | V\| |
| 22+ 5 | 2.2957 | 0.27 | \|Q | \| | \| | \| | V\| |
| 22+10 | 2.2979 | 0.32 | \|Q | \| | \| | \| | V\| |
| 22+15 | 2.3002 | 0.33 | \|Q | \| | \| | \| | V\| |
| 22+20 | 2.3022 | 0.30 | \|Q | \| | \| | \| | V\| |
| 22+25 | 2.3039 | 0.25 | Q | \| | \| | \| | V\| |
| 22+30 | 2.3055 | 0.23 | Q | \| | \| | \| | V\| |
| 22+35 | 2.3071 | 0.23 | Q | \| | \| | \| | V\| |
| 22+40 | 2.3086 | 0.23 | Q | \| | \| | \| | V\| |
| 22+45 | 2.3102 | 0.23 | Q | \| | \| | \| | V\| |
| 22+50 | 2.3118 | 0.23 | Q | \| | \| | \| | V\| |
| 22+55 | 2.3133 | 0.23 | Q | \| | \| | \| | V\| |

```
   23+ 0       2.3149      0.23  Q        |         |         |        V|
   23+ 5       2.3164      0.23  Q        |         |         |        V|
   23+10       2.3180      0.23  Q        |         |         |        V|
   23+15       2.3195      0.23  Q        |         |         |        V|
   23+20       2.3211      0.23  Q        |         |         |        V|
   23+25       2.3227      0.23  Q        |         |         |        V|
   23+30       2.3242      0.23  Q        |         |         |        V|
   23+35       2.3258      0.23  Q        |         |         |        V|
   23+40       2.3273      0.23  Q        |         |         |        V|
   23+45       2.3289      0.23  Q        |         |         |        V|
   23+50       2.3304      0.23  Q        |         |         |        V|
   23+55       2.3320      0.23  Q        |         |         |        V|
   24+ 0       2.3336      0.23  Q        |         |         |        V|
   24+ 5       2.3346      0.15  Q        |         |         |        V|
   24+10       2.3349      0.04  Q        |         |         |        V|
   24+15       2.3350      0.02  Q        |         |         |        V|
   24+20       2.3350      0.01  Q        |         |         |        V|
   24+25       2.3350      0.00  Q        |         |         |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
Study date 03/02/23 File: devhyd15.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
5-YEAR STORM
BY: JTS DATE: 03-02-23

---

Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.56 | 7.99 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.28 | 18.27 |

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.560(In)
Area Averaged 100-Year Rainfall = 1.280(In)

Point rain (area averaged) = 0.729(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.729(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|

```
    14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 46.6  27.6      0.779     0.159        0.668       1.000      0.668
                                                  Sum (F) =   0.668
 Area averaged mean soil loss (F) (In/Hr) =  0.668
 Minimum soil loss rate ((In/Hr)) =  0.334
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.259
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5300
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %           (CFS)
 ------------------------------------------------------------------------
     1   0.083        157.487         34.939             5.025
     2   0.167        314.973         46.456             6.681
     3   0.250        472.460         10.764             1.548
     4   0.333        629.946          4.657             0.670
     5   0.417        787.433          2.267             0.326
     6   0.500        944.919          0.918             0.132
                                 Sum = 100.000   Sum=     14.381
-------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     3.40      0.297       (  0.668)      0.077        0.220
    2   0.17     4.70      0.411       (  0.668)      0.106        0.304
    3   0.25     4.70      0.411       (  0.668)      0.106        0.304
    4   0.33     5.10      0.446       (  0.668)      0.115        0.330
    5   0.42     5.80      0.507       (  0.668)      0.131        0.376
    6   0.50     5.90      0.516       (  0.668)      0.134        0.382
    7   0.58     7.10      0.621       (  0.668)      0.161        0.460
    8   0.67     8.70      0.761       (  0.668)      0.197        0.564
    9   0.75    13.20      1.154       (  0.668)      0.299        0.855
   10   0.83    29.70      2.597          0.668    (  0.673)      1.929
   11   0.92     7.70      0.673       (  0.668)      0.174        0.499
   12   1.00     4.00      0.350       (  0.668)      0.091        0.259
                 (Loss Rate Not Used)
     Sum =     100.0                                  Sum =     6.5
    Flood volume = Effective rainfall      0.54(In)
     times area      14.3(Ac.)/[(In)/(Ft.)] =       0.6(Ac.Ft)
    Total soil loss =      0.19(In)
    Total soil loss =     0.224(Ac.Ft)
    Total rainfall =      0.73(In)
    Flood volume =       27985.2 Cubic Feet
    Total soil loss =        9753.6 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =     17.304(CFS)
    ------------------------------------------------------------------------
    ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f     H y d r o g r a p h
    ------------------------------------------------------------------------
               Hydrograph in   5   Minute intervals ((CFS))
```

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 5.0 | 10.0 | 15.0 | 20.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0076 | 1.11 | V Q | | | | |
| 0+10 | 0.0283 | 3.00 | V Q | | | | |
| 0+15 | 0.0552 | 3.91 | V Q | | | | |
| 0+20 | 0.0849 | 4.32 | V Q | | | | |
| 0+25 | 0.1183 | 4.84 | V Q | | | | |
| 0+30 | 0.1546 | 5.28 | VQ | | | | |
| 0+35 | 0.1947 | 5.81 | QV | | | | |
| 0+40 | 0.2422 | 6.90 | Q V | | | | |
| 0+45 | 0.3055 | 9.20 | QV | | | | |
| 0+50 | 0.4210 | 16.77 | V | | | Q | |
| 0+55 | 0.5402 | 17.30 | VQ | | | | |
| 1+ 0 | 0.5983 | 8.44 | Q | | | V | |
| 1+ 5 | 0.6269 | 4.15 | Q | | | V | |
| 1+10 | 0.6371 | 1.48 | Q | | | V | |
| 1+15 | 0.6412 | 0.59 | Q | | | V | |
| 1+20 | 0.6422 | 0.15 | Q | | | V | |
| 1+25 | 0.6425 | 0.03 | Q | | | V | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: devhyd35.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
5-YEAR STORM
BY: JTS DATE: 03-02-23

---

Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.96 | 13.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.23 | 31.82 |

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.960(In)
Area Averaged 100-Year Rainfall = 2.230(In)

Point rain (area averaged) = 1.257(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.257(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|

```
   14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  27.6      0.779     0.159        0.668       1.000      0.668
                                                 Sum (F) =   0.668
Area averaged mean soil loss (F) (In/Hr) =  0.668
Minimum soil loss rate ((In/Hr)) =  0.334
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     1.30      0.196       (  0.668)       0.051        0.145
    2   0.17     1.30      0.196       (  0.668)       0.051        0.145
    3   0.25     1.10      0.166       (  0.668)       0.043        0.123
    4   0.33     1.50      0.226       (  0.668)       0.059        0.168
    5   0.42     1.50      0.226       (  0.668)       0.059        0.168
    6   0.50     1.80      0.272       (  0.668)       0.070        0.201
    7   0.58     1.50      0.226       (  0.668)       0.059        0.168
    8   0.67     1.80      0.272       (  0.668)       0.070        0.201
    9   0.75     1.80      0.272       (  0.668)       0.070        0.201
   10   0.83     1.50      0.226       (  0.668)       0.059        0.168
   11   0.92     1.60      0.241       (  0.668)       0.063        0.179
   12   1.00     1.80      0.272       (  0.668)       0.070        0.201
   13   1.08     2.20      0.332       (  0.668)       0.086        0.246
   14   1.17     2.20      0.332       (  0.668)       0.086        0.246
   15   1.25     2.20      0.332       (  0.668)       0.086        0.246
   16   1.33     2.00      0.302       (  0.668)       0.078        0.224
   17   1.42     2.60      0.392       (  0.668)       0.102        0.291
   18   1.50     2.70      0.407       (  0.668)       0.106        0.302
   19   1.58     2.40      0.362       (  0.668)       0.094        0.268
   20   1.67     2.70      0.407       (  0.668)       0.106        0.302
   21   1.75     3.30      0.498       (  0.668)       0.129        0.369
   22   1.83     3.10      0.468       (  0.668)       0.121        0.347
   23   1.92     2.90      0.438       (  0.668)       0.113        0.324
   24   2.00     3.00      0.453       (  0.668)       0.117        0.335
   25   2.08     3.10      0.468       (  0.668)       0.121        0.347
   26   2.17     4.20      0.634       (  0.668)       0.164        0.470
   27   2.25     5.00      0.754       (  0.668)       0.195        0.559
   28   2.33     3.50      0.528       (  0.668)       0.137        0.391
   29   2.42     6.80      1.026       (  0.668)       0.266        0.760
   30   2.50     7.30      1.101       (  0.668)       0.285        0.816
   31   2.58     8.20      1.237       (  0.668)       0.320        0.917
   32   2.67     5.90      0.890       (  0.668)       0.231        0.660
```

```
33   2.75     2.00      0.302       (  0.668)       0.078        0.224
34   2.83     1.80      0.272       (  0.668)       0.070        0.201
35   2.92     1.80      0.272       (  0.668)       0.070        0.201
36   3.00     0.60      0.091       (  0.668)       0.023        0.067
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    11.2
      Flood volume = Effective rainfall      0.93(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       1.1(Ac.Ft)
      Total soil loss =      0.33(In)
      Total soil loss =     0.387(Ac.Ft)
      Total rainfall =      1.26(In)
      Flood volume =       48263.4 Cubic Feet
      Total soil loss =       16869.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     11.749(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
---------------------------------------------------------------------------
  0+ 5       0.0050      0.73  VQ        |         |         |         |
  0+10       0.0168      1.70  V  Q      |         |         |         |
  0+15       0.0293      1.81  |V Q      |         |         |         |
  0+20       0.0429      1.99  |V Q      |         |         |         |
  0+25       0.0588      2.30  | V Q     |         |         |         |
  0+30       0.0763      2.54  | V  Q    |         |         |         |
  0+35       0.0943      2.62  |  V Q    |         |         |         |
  0+40       0.1124      2.63  |   VQ    |         |         |         |
  0+45       0.1319      2.83  |   VQ    |         |         |         |
  0+50       0.1505      2.70  |    Q    |         |         |         |
  0+55       0.1681      2.55  |    QV   |         |         |         |
  1+ 0       0.1866      2.69  |    QV   |         |         |         |
  1+ 5       0.2077      3.06  |     QV  |         |         |         |
  1+10       0.2311      3.39  |     Q V |         |         |         |
  1+15       0.2550      3.48  |     Q  V|         |         |         |
  1+20       0.2784      3.40  |     Q   V         |         |         |
  1+25       0.3033      3.61  |      Q  V         |         |         |
  1+30       0.3314      4.08  |       Q |V        |         |         |
  1+35       0.3595      4.08  |       Q | V       |         |         |
  1+40       0.3876      4.08  |       Q |  V      |         |         |
  1+45       0.4194      4.62  |        Q|    V    |         |         |
  1+50       0.4538      4.99  |        Q|     V   |         |         |
  1+55       0.4872      4.85  |        Q|      V  |         |         |
  2+ 0       0.5200      4.77  |        Q|       V |         |         |
  2+ 5       0.5536      4.88  |        Q|        V|         |         |
  2+10       0.5920      5.58  |         |Q        |V        |         |
  2+15       0.6393      6.86  |         |  Q      |  V      |         |
  2+20       0.6862      6.82  |         |  Q      |   V     |         |
  2+25       0.7398      7.78  |         |    Q    |     V   |         |
  2+30       0.8112     10.36  |         |         Q       V|         |
  2+35       0.8921     11.75  |         |         |  Q      | V       |
  2+40       0.9707     11.42  |         |         | Q       |    V    |
  2+45       1.0245      7.80  |         |    Q    |         |     V   |
  2+50       1.0555      4.51  |        Q|         |         |       V |
  2+55       1.0800      3.55  |      Q  |         |         |       V |
  3+ 0       1.0971      2.48  |   Q     |         |         |        V|
  3+ 5       1.1043      1.06  | Q       |         |         |        V|
  3+10       1.1066      0.33  Q         |         |         |        V|
  3+15       1.1076      0.14  Q         |         |         |        V|
  3+20       1.1079      0.05  Q         |         |         |        V|
  3+25       1.1080      0.01  Q         |         |         |         V
---------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: devhyd65.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
5-YEAR STORM
BY: JTS DATE: 03-02-23
---
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.42 | 20.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 3.15 | 44.95 |

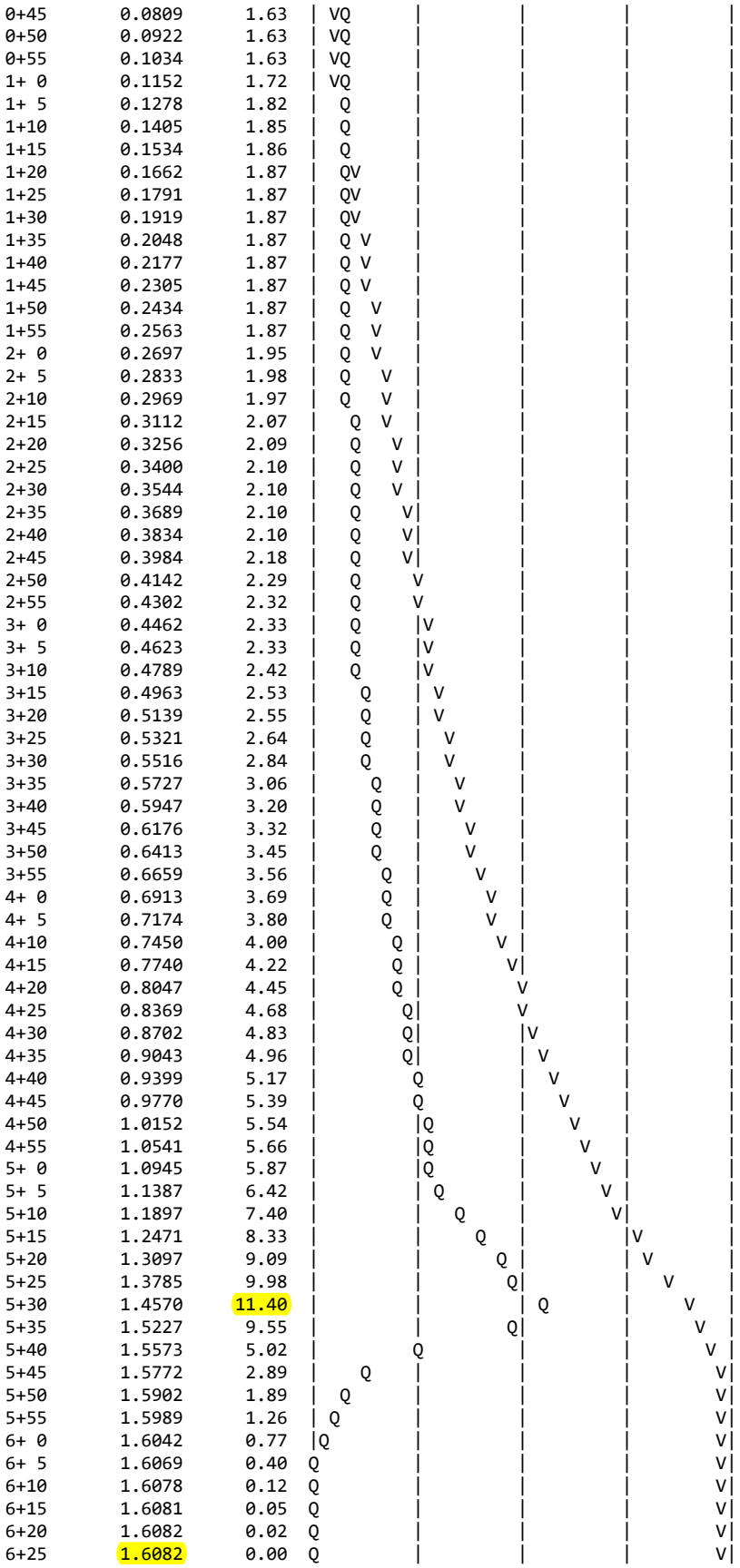
STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.420(In)
Area Averaged 100-Year Rainfall = 3.150(In)

Point rain (area averaged) = 1.825(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.825(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
   14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  27.6      0.779     0.159        0.668       1.000      0.668
                                                 Sum (F) =   0.668
Area averaged mean soil loss (F) (In/Hr) =  0.668
Minimum soil loss rate ((In/Hr)) =  0.334
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     0.50      0.110       (  0.668)       0.028        0.081
    2   0.17     0.60      0.131       (  0.668)       0.034        0.097
    3   0.25     0.60      0.131       (  0.668)       0.034        0.097
    4   0.33     0.60      0.131       (  0.668)       0.034        0.097
    5   0.42     0.60      0.131       (  0.668)       0.034        0.097
    6   0.50     0.70      0.153       (  0.668)       0.040        0.114
    7   0.58     0.70      0.153       (  0.668)       0.040        0.114
    8   0.67     0.70      0.153       (  0.668)       0.040        0.114
    9   0.75     0.70      0.153       (  0.668)       0.040        0.114
   10   0.83     0.70      0.153       (  0.668)       0.040        0.114
   11   0.92     0.70      0.153       (  0.668)       0.040        0.114
   12   1.00     0.80      0.175       (  0.668)       0.045        0.130
   13   1.08     0.80      0.175       (  0.668)       0.045        0.130
   14   1.17     0.80      0.175       (  0.668)       0.045        0.130
   15   1.25     0.80      0.175       (  0.668)       0.045        0.130
   16   1.33     0.80      0.175       (  0.668)       0.045        0.130
   17   1.42     0.80      0.175       (  0.668)       0.045        0.130
   18   1.50     0.80      0.175       (  0.668)       0.045        0.130
   19   1.58     0.80      0.175       (  0.668)       0.045        0.130
   20   1.67     0.80      0.175       (  0.668)       0.045        0.130
   21   1.75     0.80      0.175       (  0.668)       0.045        0.130
   22   1.83     0.80      0.175       (  0.668)       0.045        0.130
   23   1.92     0.80      0.175       (  0.668)       0.045        0.130
   24   2.00     0.90      0.197       (  0.668)       0.051        0.146
   25   2.08     0.80      0.175       (  0.668)       0.045        0.130
   26   2.17     0.90      0.197       (  0.668)       0.051        0.146
   27   2.25     0.90      0.197       (  0.668)       0.051        0.146
   28   2.33     0.90      0.197       (  0.668)       0.051        0.146
   29   2.42     0.90      0.197       (  0.668)       0.051        0.146
   30   2.50     0.90      0.197       (  0.668)       0.051        0.146
   31   2.58     0.90      0.197       (  0.668)       0.051        0.146
   32   2.67     0.90      0.197       (  0.668)       0.051        0.146
```

```
33   2.75     1.00      0.219       (  0.668)       0.057        0.162
34   2.83     1.00      0.219       (  0.668)       0.057        0.162
35   2.92     1.00      0.219       (  0.668)       0.057        0.162
36   3.00     1.00      0.219       (  0.668)       0.057        0.162
37   3.08     1.00      0.219       (  0.668)       0.057        0.162
38   3.17     1.10      0.241       (  0.668)       0.062        0.179
39   3.25     1.10      0.241       (  0.668)       0.062        0.179
40   3.33     1.10      0.241       (  0.668)       0.062        0.179
41   3.42     1.20      0.263       (  0.668)       0.068        0.195
42   3.50     1.30      0.285       (  0.668)       0.074        0.211
43   3.58     1.40      0.307       (  0.668)       0.079        0.227
44   3.67     1.40      0.307       (  0.668)       0.079        0.227
45   3.75     1.50      0.329       (  0.668)       0.085        0.243
46   3.83     1.50      0.329       (  0.668)       0.085        0.243
47   3.92     1.60      0.350       (  0.668)       0.091        0.260
48   4.00     1.60      0.350       (  0.668)       0.091        0.260
49   4.08     1.70      0.372       (  0.668)       0.096        0.276
50   4.17     1.80      0.394       (  0.668)       0.102        0.292
51   4.25     1.90      0.416       (  0.668)       0.108        0.308
52   4.33     2.00      0.438       (  0.668)       0.113        0.325
53   4.42     2.10      0.460       (  0.668)       0.119        0.341
54   4.50     2.10      0.460       (  0.668)       0.119        0.341
55   4.58     2.20      0.482       (  0.668)       0.125        0.357
56   4.67     2.30      0.504       (  0.668)       0.130        0.373
57   4.75     2.40      0.526       (  0.668)       0.136        0.389
58   4.83     2.40      0.526       (  0.668)       0.136        0.389
59   4.92     2.50      0.548       (  0.668)       0.142        0.406
60   5.00     2.60      0.569       (  0.668)       0.147        0.422
61   5.08     3.10      0.679       (  0.668)       0.176        0.503
62   5.17     3.60      0.788       (  0.668)       0.204        0.584
63   5.25     3.90      0.854       (  0.668)       0.221        0.633
64   5.33     4.20      0.920       (  0.668)       0.238        0.682
65   5.42     4.70      1.029       (  0.668)       0.267        0.763
66   5.50     5.60      1.226       (  0.668)       0.318        0.909
67   5.58     1.90      0.416       (  0.668)       0.108        0.308
68   5.67     0.90      0.197       (  0.668)       0.051        0.146
69   5.75     0.60      0.131       (  0.668)       0.034        0.097
70   5.83     0.50      0.110       (  0.668)       0.028        0.081
71   5.92     0.30      0.066       (  0.668)       0.017        0.049
72   6.00     0.20      0.044       (  0.668)       0.011        0.032
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    16.2
      Flood volume = Effective rainfall      1.35(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       1.6(Ac.Ft)
      Total soil loss =      0.47(In)
      Total soil loss =     0.562(Ac.Ft)
      Total rainfall =      1.83(In)
      Flood volume =       70055.1 Cubic Feet
      Total soil loss =       24486.2 Cubic Feet
      --------------------------------------------------------------------
       Peak flow rate of this hydrograph =     11.404(CFS)
      --------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      --------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      --------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0028      0.41  Q         |         |         |         |
  0+10       0.0099      1.03  V Q       |         |         |         |
  0+15       0.0186      1.27  V Q       |         |         |         |
  0+20       0.0279      1.35  V Q       |         |         |         |
  0+25       0.0374      1.38  V Q       |         |         |         |
  0+30       0.0476      1.48  |VQ       |         |         |         |
  0+35       0.0586      1.59  |V Q      |         |         |         |
  0+40       0.0697      1.62  |V Q      |         |         |         |
```



U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: devhyd245.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
5-YEAR STORM
BY: JTS DATE: 03-02-23

---

Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.65 | 37.82 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 6.95 | 99.18 |

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 2.650(In)
Area Averaged 100-Year Rainfall = 6.950(In)

Point rain (area averaged) = 3.657(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.657(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|

```
   14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  27.6      0.779     0.159        0.668       1.000      0.668
                                                 Sum (F) =   0.668
Area averaged mean soil loss (F) (In/Hr) =  0.668
Minimum soil loss rate ((In/Hr)) =  0.334
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     0.07      0.029       (  1.184)       0.008        0.022
    2   0.17     0.07      0.029       (  1.179)       0.008        0.022
    3   0.25     0.07      0.029       (  1.174)       0.008        0.022
    4   0.33     0.10      0.044       (  1.170)       0.011        0.033
    5   0.42     0.10      0.044       (  1.165)       0.011        0.033
    6   0.50     0.10      0.044       (  1.161)       0.011        0.033
    7   0.58     0.10      0.044       (  1.156)       0.011        0.033
    8   0.67     0.10      0.044       (  1.152)       0.011        0.033
    9   0.75     0.10      0.044       (  1.147)       0.011        0.033
   10   0.83     0.13      0.059       (  1.143)       0.015        0.043
   11   0.92     0.13      0.059       (  1.138)       0.015        0.043
   12   1.00     0.13      0.059       (  1.134)       0.015        0.043
   13   1.08     0.10      0.044       (  1.129)       0.011        0.033
   14   1.17     0.10      0.044       (  1.125)       0.011        0.033
   15   1.25     0.10      0.044       (  1.120)       0.011        0.033
   16   1.33     0.10      0.044       (  1.116)       0.011        0.033
   17   1.42     0.10      0.044       (  1.111)       0.011        0.033
   18   1.50     0.10      0.044       (  1.107)       0.011        0.033
   19   1.58     0.10      0.044       (  1.103)       0.011        0.033
   20   1.67     0.10      0.044       (  1.098)       0.011        0.033
   21   1.75     0.10      0.044       (  1.094)       0.011        0.033
   22   1.83     0.13      0.059       (  1.089)       0.015        0.043
   23   1.92     0.13      0.059       (  1.085)       0.015        0.043
   24   2.00     0.13      0.059       (  1.081)       0.015        0.043
   25   2.08     0.13      0.059       (  1.076)       0.015        0.043
   26   2.17     0.13      0.059       (  1.072)       0.015        0.043
   27   2.25     0.13      0.059       (  1.068)       0.015        0.043
   28   2.33     0.13      0.059       (  1.063)       0.015        0.043
   29   2.42     0.13      0.059       (  1.059)       0.015        0.043
   30   2.50     0.13      0.059       (  1.055)       0.015        0.043
   31   2.58     0.17      0.073       (  1.050)       0.019        0.054
   32   2.67     0.17      0.073       (  1.046)       0.019        0.054
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 33 | 2.75 | 0.17 | 0.073 | ( 1.042) | 0.019 | 0.054 |
| 34 | 2.83 | 0.17 | 0.073 | ( 1.037) | 0.019 | 0.054 |
| 35 | 2.92 | 0.17 | 0.073 | ( 1.033) | 0.019 | 0.054 |
| 36 | 3.00 | 0.17 | 0.073 | ( 1.029) | 0.019 | 0.054 |
| 37 | 3.08 | 0.17 | 0.073 | ( 1.024) | 0.019 | 0.054 |
| 38 | 3.17 | 0.17 | 0.073 | ( 1.020) | 0.019 | 0.054 |
| 39 | 3.25 | 0.17 | 0.073 | ( 1.016) | 0.019 | 0.054 |
| 40 | 3.33 | 0.17 | 0.073 | ( 1.012) | 0.019 | 0.054 |
| 41 | 3.42 | 0.17 | 0.073 | ( 1.008) | 0.019 | 0.054 |
| 42 | 3.50 | 0.17 | 0.073 | ( 1.003) | 0.019 | 0.054 |
| 43 | 3.58 | 0.17 | 0.073 | ( 0.999) | 0.019 | 0.054 |
| 44 | 3.67 | 0.17 | 0.073 | ( 0.995) | 0.019 | 0.054 |
| 45 | 3.75 | 0.17 | 0.073 | ( 0.991) | 0.019 | 0.054 |
| 46 | 3.83 | 0.20 | 0.088 | ( 0.987) | 0.023 | 0.065 |
| 47 | 3.92 | 0.20 | 0.088 | ( 0.982) | 0.023 | 0.065 |
| 48 | 4.00 | 0.20 | 0.088 | ( 0.978) | 0.023 | 0.065 |
| 49 | 4.08 | 0.20 | 0.088 | ( 0.974) | 0.023 | 0.065 |
| 50 | 4.17 | 0.20 | 0.088 | ( 0.970) | 0.023 | 0.065 |
| 51 | 4.25 | 0.20 | 0.088 | ( 0.966) | 0.023 | 0.065 |
| 52 | 4.33 | 0.23 | 0.102 | ( 0.962) | 0.027 | 0.076 |
| 53 | 4.42 | 0.23 | 0.102 | ( 0.958) | 0.027 | 0.076 |
| 54 | 4.50 | 0.23 | 0.102 | ( 0.953) | 0.027 | 0.076 |
| 55 | 4.58 | 0.23 | 0.102 | ( 0.949) | 0.027 | 0.076 |
| 56 | 4.67 | 0.23 | 0.102 | ( 0.945) | 0.027 | 0.076 |
| 57 | 4.75 | 0.23 | 0.102 | ( 0.941) | 0.027 | 0.076 |
| 58 | 4.83 | 0.27 | 0.117 | ( 0.937) | 0.030 | 0.087 |
| 59 | 4.92 | 0.27 | 0.117 | ( 0.933) | 0.030 | 0.087 |
| 60 | 5.00 | 0.27 | 0.117 | ( 0.929) | 0.030 | 0.087 |
| 61 | 5.08 | 0.20 | 0.088 | ( 0.925) | 0.023 | 0.065 |
| 62 | 5.17 | 0.20 | 0.088 | ( 0.921) | 0.023 | 0.065 |
| 63 | 5.25 | 0.20 | 0.088 | ( 0.917) | 0.023 | 0.065 |
| 64 | 5.33 | 0.23 | 0.102 | ( 0.913) | 0.027 | 0.076 |
| 65 | 5.42 | 0.23 | 0.102 | ( 0.909) | 0.027 | 0.076 |
| 66 | 5.50 | 0.23 | 0.102 | ( 0.905) | 0.027 | 0.076 |
| 67 | 5.58 | 0.27 | 0.117 | ( 0.901) | 0.030 | 0.087 |
| 68 | 5.67 | 0.27 | 0.117 | ( 0.897) | 0.030 | 0.087 |
| 69 | 5.75 | 0.27 | 0.117 | ( 0.893) | 0.030 | 0.087 |
| 70 | 5.83 | 0.27 | 0.117 | ( 0.889) | 0.030 | 0.087 |
| 71 | 5.92 | 0.27 | 0.117 | ( 0.885) | 0.030 | 0.087 |
| 72 | 6.00 | 0.27 | 0.117 | ( 0.881) | 0.030 | 0.087 |
| 73 | 6.08 | 0.30 | 0.132 | ( 0.877) | 0.034 | 0.098 |
| 74 | 6.17 | 0.30 | 0.132 | ( 0.874) | 0.034 | 0.098 |
| 75 | 6.25 | 0.30 | 0.132 | ( 0.870) | 0.034 | 0.098 |
| 76 | 6.33 | 0.30 | 0.132 | ( 0.866) | 0.034 | 0.098 |
| 77 | 6.42 | 0.30 | 0.132 | ( 0.862) | 0.034 | 0.098 |
| 78 | 6.50 | 0.30 | 0.132 | ( 0.858) | 0.034 | 0.098 |
| 79 | 6.58 | 0.33 | 0.146 | ( 0.854) | 0.038 | 0.108 |
| 80 | 6.67 | 0.33 | 0.146 | ( 0.850) | 0.038 | 0.108 |
| 81 | 6.75 | 0.33 | 0.146 | ( 0.846) | 0.038 | 0.108 |
| 82 | 6.83 | 0.33 | 0.146 | ( 0.843) | 0.038 | 0.108 |
| 83 | 6.92 | 0.33 | 0.146 | ( 0.839) | 0.038 | 0.108 |
| 84 | 7.00 | 0.33 | 0.146 | ( 0.835) | 0.038 | 0.108 |
| 85 | 7.08 | 0.33 | 0.146 | ( 0.831) | 0.038 | 0.108 |
| 86 | 7.17 | 0.33 | 0.146 | ( 0.827) | 0.038 | 0.108 |
| 87 | 7.25 | 0.33 | 0.146 | ( 0.824) | 0.038 | 0.108 |
| 88 | 7.33 | 0.37 | 0.161 | ( 0.820) | 0.042 | 0.119 |
| 89 | 7.42 | 0.37 | 0.161 | ( 0.816) | 0.042 | 0.119 |
| 90 | 7.50 | 0.37 | 0.161 | ( 0.812) | 0.042 | 0.119 |
| 91 | 7.58 | 0.40 | 0.176 | ( 0.809) | 0.045 | 0.130 |
| 92 | 7.67 | 0.40 | 0.176 | ( 0.805) | 0.045 | 0.130 |
| 93 | 7.75 | 0.40 | 0.176 | ( 0.801) | 0.045 | 0.130 |
| 94 | 7.83 | 0.43 | 0.190 | ( 0.798) | 0.049 | 0.141 |
| 95 | 7.92 | 0.43 | 0.190 | ( 0.794) | 0.049 | 0.141 |
| 96 | 8.00 | 0.43 | 0.190 | ( 0.790) | 0.049 | 0.141 |
| 97 | 8.08 | 0.50 | 0.219 | ( 0.787) | 0.057 | 0.163 |
| 98 | 8.17 | 0.50 | 0.219 | ( 0.783) | 0.057 | 0.163 |
| 99 | 8.25 | 0.50 | 0.219 | ( 0.779) | 0.057 | 0.163 |
| 100 | 8.33 | 0.50 | 0.219 | ( 0.776) | 0.057 | 0.163 |
| 101 | 8.42 | 0.50 | 0.219 | ( 0.772) | 0.057 | 0.163 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 102 | 8.50 | 0.50 | 0.219 | ( 0.768) | 0.057 | 0.163 |
| 103 | 8.58 | 0.53 | 0.234 | ( 0.765) | 0.061 | 0.173 |
| 104 | 8.67 | 0.53 | 0.234 | ( 0.761) | 0.061 | 0.173 |
| 105 | 8.75 | 0.53 | 0.234 | ( 0.758) | 0.061 | 0.173 |
| 106 | 8.83 | 0.57 | 0.249 | ( 0.754) | 0.064 | 0.184 |
| 107 | 8.92 | 0.57 | 0.249 | ( 0.750) | 0.064 | 0.184 |
| 108 | 9.00 | 0.57 | 0.249 | ( 0.747) | 0.064 | 0.184 |
| 109 | 9.08 | 0.63 | 0.278 | ( 0.743) | 0.072 | 0.206 |
| 110 | 9.17 | 0.63 | 0.278 | ( 0.740) | 0.072 | 0.206 |
| 111 | 9.25 | 0.63 | 0.278 | ( 0.736) | 0.072 | 0.206 |
| 112 | 9.33 | 0.67 | 0.293 | ( 0.733) | 0.076 | 0.217 |
| 113 | 9.42 | 0.67 | 0.293 | ( 0.729) | 0.076 | 0.217 |
| 114 | 9.50 | 0.67 | 0.293 | ( 0.726) | 0.076 | 0.217 |
| 115 | 9.58 | 0.70 | 0.307 | ( 0.722) | 0.080 | 0.228 |
| 116 | 9.67 | 0.70 | 0.307 | ( 0.719) | 0.080 | 0.228 |
| 117 | 9.75 | 0.70 | 0.307 | ( 0.715) | 0.080 | 0.228 |
| 118 | 9.83 | 0.73 | 0.322 | ( 0.712) | 0.083 | 0.238 |
| 119 | 9.92 | 0.73 | 0.322 | ( 0.709) | 0.083 | 0.238 |
| 120 | 10.00 | 0.73 | 0.322 | ( 0.705) | 0.083 | 0.238 |
| 121 | 10.08 | 0.50 | 0.219 | ( 0.702) | 0.057 | 0.163 |
| 122 | 10.17 | 0.50 | 0.219 | ( 0.698) | 0.057 | 0.163 |
| 123 | 10.25 | 0.50 | 0.219 | ( 0.695) | 0.057 | 0.163 |
| 124 | 10.33 | 0.50 | 0.219 | ( 0.692) | 0.057 | 0.163 |
| 125 | 10.42 | 0.50 | 0.219 | ( 0.688) | 0.057 | 0.163 |
| 126 | 10.50 | 0.50 | 0.219 | ( 0.685) | 0.057 | 0.163 |
| 127 | 10.58 | 0.67 | 0.293 | ( 0.681) | 0.076 | 0.217 |
| 128 | 10.67 | 0.67 | 0.293 | ( 0.678) | 0.076 | 0.217 |
| 129 | 10.75 | 0.67 | 0.293 | ( 0.675) | 0.076 | 0.217 |
| 130 | 10.83 | 0.67 | 0.293 | ( 0.672) | 0.076 | 0.217 |
| 131 | 10.92 | 0.67 | 0.293 | ( 0.668) | 0.076 | 0.217 |
| 132 | 11.00 | 0.67 | 0.293 | ( 0.665) | 0.076 | 0.217 |
| 133 | 11.08 | 0.63 | 0.278 | ( 0.662) | 0.072 | 0.206 |
| 134 | 11.17 | 0.63 | 0.278 | ( 0.658) | 0.072 | 0.206 |
| 135 | 11.25 | 0.63 | 0.278 | ( 0.655) | 0.072 | 0.206 |
| 136 | 11.33 | 0.63 | 0.278 | ( 0.652) | 0.072 | 0.206 |
| 137 | 11.42 | 0.63 | 0.278 | ( 0.649) | 0.072 | 0.206 |
| 138 | 11.50 | 0.63 | 0.278 | ( 0.645) | 0.072 | 0.206 |
| 139 | 11.58 | 0.57 | 0.249 | ( 0.642) | 0.064 | 0.184 |
| 140 | 11.67 | 0.57 | 0.249 | ( 0.639) | 0.064 | 0.184 |
| 141 | 11.75 | 0.57 | 0.249 | ( 0.636) | 0.064 | 0.184 |
| 142 | 11.83 | 0.60 | 0.263 | ( 0.633) | 0.068 | 0.195 |
| 143 | 11.92 | 0.60 | 0.263 | ( 0.630) | 0.068 | 0.195 |
| 144 | 12.00 | 0.60 | 0.263 | ( 0.626) | 0.068 | 0.195 |
| 145 | 12.08 | 0.83 | 0.366 | ( 0.623) | 0.095 | 0.271 |
| 146 | 12.17 | 0.83 | 0.366 | ( 0.620) | 0.095 | 0.271 |
| 147 | 12.25 | 0.83 | 0.366 | ( 0.617) | 0.095 | 0.271 |
| 148 | 12.33 | 0.87 | 0.380 | ( 0.614) | 0.099 | 0.282 |
| 149 | 12.42 | 0.87 | 0.380 | ( 0.611) | 0.099 | 0.282 |
| 150 | 12.50 | 0.87 | 0.380 | ( 0.608) | 0.099 | 0.282 |
| 151 | 12.58 | 0.93 | 0.410 | ( 0.605) | 0.106 | 0.304 |
| 152 | 12.67 | 0.93 | 0.410 | ( 0.602) | 0.106 | 0.304 |
| 153 | 12.75 | 0.93 | 0.410 | ( 0.599) | 0.106 | 0.304 |
| 154 | 12.83 | 0.97 | 0.424 | ( 0.596) | 0.110 | 0.314 |
| 155 | 12.92 | 0.97 | 0.424 | ( 0.593) | 0.110 | 0.314 |
| 156 | 13.00 | 0.97 | 0.424 | ( 0.590) | 0.110 | 0.314 |
| 157 | 13.08 | 1.13 | 0.497 | ( 0.587) | 0.129 | 0.369 |
| 158 | 13.17 | 1.13 | 0.497 | ( 0.584) | 0.129 | 0.369 |
| 159 | 13.25 | 1.13 | 0.497 | ( 0.581) | 0.129 | 0.369 |
| 160 | 13.33 | 1.13 | 0.497 | ( 0.578) | 0.129 | 0.369 |
| 161 | 13.42 | 1.13 | 0.497 | ( 0.575) | 0.129 | 0.369 |
| 162 | 13.50 | 1.13 | 0.497 | ( 0.572) | 0.129 | 0.369 |
| 163 | 13.58 | 0.77 | 0.336 | ( 0.569) | 0.087 | 0.249 |
| 164 | 13.67 | 0.77 | 0.336 | ( 0.566) | 0.087 | 0.249 |
| 165 | 13.75 | 0.77 | 0.336 | ( 0.563) | 0.087 | 0.249 |
| 166 | 13.83 | 0.77 | 0.336 | ( 0.560) | 0.087 | 0.249 |
| 167 | 13.92 | 0.77 | 0.336 | ( 0.557) | 0.087 | 0.249 |
| 168 | 14.00 | 0.77 | 0.336 | ( 0.555) | 0.087 | 0.249 |
| 169 | 14.08 | 0.90 | 0.395 | ( 0.552) | 0.102 | 0.293 |
| 170 | 14.17 | 0.90 | 0.395 | ( 0.549) | 0.102 | 0.293 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 171 | 14.25 | 0.90 | 0.395 | ( 0.546) | 0.102 | 0.293 |
| 172 | 14.33 | 0.87 | 0.380 | ( 0.543) | 0.099 | 0.282 |
| 173 | 14.42 | 0.87 | 0.380 | ( 0.541) | 0.099 | 0.282 |
| 174 | 14.50 | 0.87 | 0.380 | ( 0.538) | 0.099 | 0.282 |
| 175 | 14.58 | 0.87 | 0.380 | ( 0.535) | 0.099 | 0.282 |
| 176 | 14.67 | 0.87 | 0.380 | ( 0.532) | 0.099 | 0.282 |
| 177 | 14.75 | 0.87 | 0.380 | ( 0.530) | 0.099 | 0.282 |
| 178 | 14.83 | 0.83 | 0.366 | ( 0.527) | 0.095 | 0.271 |
| 179 | 14.92 | 0.83 | 0.366 | ( 0.524) | 0.095 | 0.271 |
| 180 | 15.00 | 0.83 | 0.366 | ( 0.521) | 0.095 | 0.271 |
| 181 | 15.08 | 0.80 | 0.351 | ( 0.519) | 0.091 | 0.260 |
| 182 | 15.17 | 0.80 | 0.351 | ( 0.516) | 0.091 | 0.260 |
| 183 | 15.25 | 0.80 | 0.351 | ( 0.514) | 0.091 | 0.260 |
| 184 | 15.33 | 0.77 | 0.336 | ( 0.511) | 0.087 | 0.249 |
| 185 | 15.42 | 0.77 | 0.336 | ( 0.508) | 0.087 | 0.249 |
| 186 | 15.50 | 0.77 | 0.336 | ( 0.506) | 0.087 | 0.249 |
| 187 | 15.58 | 0.63 | 0.278 | ( 0.503) | 0.072 | 0.206 |
| 188 | 15.67 | 0.63 | 0.278 | ( 0.500) | 0.072 | 0.206 |
| 189 | 15.75 | 0.63 | 0.278 | ( 0.498) | 0.072 | 0.206 |
| 190 | 15.83 | 0.63 | 0.278 | ( 0.495) | 0.072 | 0.206 |
| 191 | 15.92 | 0.63 | 0.278 | ( 0.493) | 0.072 | 0.206 |
| 192 | 16.00 | 0.63 | 0.278 | ( 0.490) | 0.072 | 0.206 |
| 193 | 16.08 | 0.13 | 0.059 | ( 0.488) | 0.015 | 0.043 |
| 194 | 16.17 | 0.13 | 0.059 | ( 0.485) | 0.015 | 0.043 |
| 195 | 16.25 | 0.13 | 0.059 | ( 0.483) | 0.015 | 0.043 |
| 196 | 16.33 | 0.13 | 0.059 | ( 0.480) | 0.015 | 0.043 |
| 197 | 16.42 | 0.13 | 0.059 | ( 0.478) | 0.015 | 0.043 |
| 198 | 16.50 | 0.13 | 0.059 | ( 0.476) | 0.015 | 0.043 |
| 199 | 16.58 | 0.10 | 0.044 | ( 0.473) | 0.011 | 0.033 |
| 200 | 16.67 | 0.10 | 0.044 | ( 0.471) | 0.011 | 0.033 |
| 201 | 16.75 | 0.10 | 0.044 | ( 0.468) | 0.011 | 0.033 |
| 202 | 16.83 | 0.10 | 0.044 | ( 0.466) | 0.011 | 0.033 |
| 203 | 16.92 | 0.10 | 0.044 | ( 0.464) | 0.011 | 0.033 |
| 204 | 17.00 | 0.10 | 0.044 | ( 0.461) | 0.011 | 0.033 |
| 205 | 17.08 | 0.17 | 0.073 | ( 0.459) | 0.019 | 0.054 |
| 206 | 17.17 | 0.17 | 0.073 | ( 0.457) | 0.019 | 0.054 |
| 207 | 17.25 | 0.17 | 0.073 | ( 0.454) | 0.019 | 0.054 |
| 208 | 17.33 | 0.17 | 0.073 | ( 0.452) | 0.019 | 0.054 |
| 209 | 17.42 | 0.17 | 0.073 | ( 0.450) | 0.019 | 0.054 |
| 210 | 17.50 | 0.17 | 0.073 | ( 0.447) | 0.019 | 0.054 |
| 211 | 17.58 | 0.17 | 0.073 | ( 0.445) | 0.019 | 0.054 |
| 212 | 17.67 | 0.17 | 0.073 | ( 0.443) | 0.019 | 0.054 |
| 213 | 17.75 | 0.17 | 0.073 | ( 0.441) | 0.019 | 0.054 |
| 214 | 17.83 | 0.13 | 0.059 | ( 0.439) | 0.015 | 0.043 |
| 215 | 17.92 | 0.13 | 0.059 | ( 0.436) | 0.015 | 0.043 |
| 216 | 18.00 | 0.13 | 0.059 | ( 0.434) | 0.015 | 0.043 |
| 217 | 18.08 | 0.13 | 0.059 | ( 0.432) | 0.015 | 0.043 |
| 218 | 18.17 | 0.13 | 0.059 | ( 0.430) | 0.015 | 0.043 |
| 219 | 18.25 | 0.13 | 0.059 | ( 0.428) | 0.015 | 0.043 |
| 220 | 18.33 | 0.13 | 0.059 | ( 0.426) | 0.015 | 0.043 |
| 221 | 18.42 | 0.13 | 0.059 | ( 0.424) | 0.015 | 0.043 |
| 222 | 18.50 | 0.13 | 0.059 | ( 0.422) | 0.015 | 0.043 |
| 223 | 18.58 | 0.10 | 0.044 | ( 0.420) | 0.011 | 0.033 |
| 224 | 18.67 | 0.10 | 0.044 | ( 0.418) | 0.011 | 0.033 |
| 225 | 18.75 | 0.10 | 0.044 | ( 0.416) | 0.011 | 0.033 |
| 226 | 18.83 | 0.07 | 0.029 | ( 0.414) | 0.008 | 0.022 |
| 227 | 18.92 | 0.07 | 0.029 | ( 0.412) | 0.008 | 0.022 |
| 228 | 19.00 | 0.07 | 0.029 | ( 0.410) | 0.008 | 0.022 |
| 229 | 19.08 | 0.10 | 0.044 | ( 0.408) | 0.011 | 0.033 |
| 230 | 19.17 | 0.10 | 0.044 | ( 0.406) | 0.011 | 0.033 |
| 231 | 19.25 | 0.10 | 0.044 | ( 0.404) | 0.011 | 0.033 |
| 232 | 19.33 | 0.13 | 0.059 | ( 0.402) | 0.015 | 0.043 |
| 233 | 19.42 | 0.13 | 0.059 | ( 0.400) | 0.015 | 0.043 |
| 234 | 19.50 | 0.13 | 0.059 | ( 0.398) | 0.015 | 0.043 |
| 235 | 19.58 | 0.10 | 0.044 | ( 0.397) | 0.011 | 0.033 |
| 236 | 19.67 | 0.10 | 0.044 | ( 0.395) | 0.011 | 0.033 |
| 237 | 19.75 | 0.10 | 0.044 | ( 0.393) | 0.011 | 0.033 |
| 238 | 19.83 | 0.07 | 0.029 | ( 0.391) | 0.008 | 0.022 |
| 239 | 19.92 | 0.07 | 0.029 | ( 0.389) | 0.008 | 0.022 |

```
240  20.00     0.07      0.029       (  0.388)       0.008        0.022
241  20.08     0.10      0.044       (  0.386)       0.011        0.033
242  20.17     0.10      0.044       (  0.384)       0.011        0.033
243  20.25     0.10      0.044       (  0.383)       0.011        0.033
244  20.33     0.10      0.044       (  0.381)       0.011        0.033
245  20.42     0.10      0.044       (  0.379)       0.011        0.033
246  20.50     0.10      0.044       (  0.378)       0.011        0.033
247  20.58     0.10      0.044       (  0.376)       0.011        0.033
248  20.67     0.10      0.044       (  0.375)       0.011        0.033
249  20.75     0.10      0.044       (  0.373)       0.011        0.033
250  20.83     0.07      0.029       (  0.372)       0.008        0.022
251  20.92     0.07      0.029       (  0.370)       0.008        0.022
252  21.00     0.07      0.029       (  0.369)       0.008        0.022
253  21.08     0.10      0.044       (  0.367)       0.011        0.033
254  21.17     0.10      0.044       (  0.366)       0.011        0.033
255  21.25     0.10      0.044       (  0.364)       0.011        0.033
256  21.33     0.07      0.029       (  0.363)       0.008        0.022
257  21.42     0.07      0.029       (  0.361)       0.008        0.022
258  21.50     0.07      0.029       (  0.360)       0.008        0.022
259  21.58     0.10      0.044       (  0.359)       0.011        0.033
260  21.67     0.10      0.044       (  0.357)       0.011        0.033
261  21.75     0.10      0.044       (  0.356)       0.011        0.033
262  21.83     0.07      0.029       (  0.355)       0.008        0.022
263  21.92     0.07      0.029       (  0.354)       0.008        0.022
264  22.00     0.07      0.029       (  0.353)       0.008        0.022
265  22.08     0.10      0.044       (  0.351)       0.011        0.033
266  22.17     0.10      0.044       (  0.350)       0.011        0.033
267  22.25     0.10      0.044       (  0.349)       0.011        0.033
268  22.33     0.07      0.029       (  0.348)       0.008        0.022
269  22.42     0.07      0.029       (  0.347)       0.008        0.022
270  22.50     0.07      0.029       (  0.346)       0.008        0.022
271  22.58     0.07      0.029       (  0.345)       0.008        0.022
272  22.67     0.07      0.029       (  0.344)       0.008        0.022
273  22.75     0.07      0.029       (  0.343)       0.008        0.022
274  22.83     0.07      0.029       (  0.342)       0.008        0.022
275  22.92     0.07      0.029       (  0.341)       0.008        0.022
276  23.00     0.07      0.029       (  0.340)       0.008        0.022
277  23.08     0.07      0.029       (  0.340)       0.008        0.022
278  23.17     0.07      0.029       (  0.339)       0.008        0.022
279  23.25     0.07      0.029       (  0.338)       0.008        0.022
280  23.33     0.07      0.029       (  0.337)       0.008        0.022
281  23.42     0.07      0.029       (  0.337)       0.008        0.022
282  23.50     0.07      0.029       (  0.336)       0.008        0.022
283  23.58     0.07      0.029       (  0.336)       0.008        0.022
284  23.67     0.07      0.029       (  0.335)       0.008        0.022
285  23.75     0.07      0.029       (  0.335)       0.008        0.022
286  23.83     0.07      0.029       (  0.334)       0.008        0.022
287  23.92     0.07      0.029       (  0.334)       0.008        0.022
288  24.00     0.07      0.029       (  0.334)       0.008        0.022
             (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    32.5
       Flood volume = Effective rainfall      2.71(In)
        times area      14.3(Ac.)/[(In)/(Ft.)] =       3.2(Ac.Ft)
       Total soil loss =      0.95(In)
       Total soil loss =     1.126(Ac.Ft)
       Total rainfall =      3.66(In)
       Flood volume =      140372.2 Cubic Feet
       Total soil loss =       49064.0 Cubic Feet
       ------------------------------------------------------------------------
        Peak flow rate of this hydrograph =      5.303(CFS)
       ------------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           24 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ------------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

       ------------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0008 | 0.11 | Q | | | | |
| 0+10 | 0.0025 | 0.25 | VQ | | | | |
| 0+15 | 0.0045 | 0.29 | VQ | | | | |
| 0+20 | 0.0069 | 0.36 | VQ | | | | |
| 0+25 | 0.0099 | 0.44 | VQ | | | | |
| 0+30 | 0.0131 | 0.46 | VQ | | | | |
| 0+35 | 0.0163 | 0.46 | VQ | | | | |
| 0+40 | 0.0195 | 0.47 | VQ | | | | |
| 0+45 | 0.0227 | 0.47 | VQ | | | | |
| 0+50 | 0.0263 | 0.52 | V Q | | | | |
| 0+55 | 0.0304 | 0.59 | V Q | | | | |
| 1+ 0 | 0.0346 | 0.61 | V Q | | | | |
| 1+ 5 | 0.0385 | 0.56 | V Q | | | | |
| 1+10 | 0.0419 | 0.50 | VQ | | | | |
| 1+15 | 0.0452 | 0.48 | VQ | | | | |
| 1+20 | 0.0485 | 0.47 | VQ | | | | |
| 1+25 | 0.0517 | 0.47 | VQ | | | | |
| 1+30 | 0.0549 | 0.47 | VQ | | | | |
| 1+35 | 0.0581 | 0.47 | VQ | | | | |
| 1+40 | 0.0614 | 0.47 | VQ | | | | |
| 1+45 | 0.0646 | 0.47 | VQ | | | | |
| 1+50 | 0.0682 | 0.52 | V Q | | | | |
| 1+55 | 0.0723 | 0.59 | V Q | | | | |
| 2+ 0 | 0.0765 | 0.61 | V Q | | | | |
| 2+ 5 | 0.0808 | 0.62 | \|VQ | | | | |
| 2+10 | 0.0850 | 0.62 | \|VQ | | | | |
| 2+15 | 0.0893 | 0.62 | \|VQ | | | | |
| 2+20 | 0.0936 | 0.62 | \|VQ | | | | |
| 2+25 | 0.0979 | 0.62 | \|VQ | | | | |
| 2+30 | 0.1022 | 0.62 | \|VQ | | | | |
| 2+35 | 0.1069 | 0.68 | \|VQ | | | | |
| 2+40 | 0.1121 | 0.75 | \|V Q | | | | |
| 2+45 | 0.1174 | 0.77 | \|V Q | | | | |
| 2+50 | 0.1227 | 0.77 | \|V Q | | | | |
| 2+55 | 0.1281 | 0.78 | \|V Q | | | | |
| 3+ 0 | 0.1334 | 0.78 | \|V Q | | | | |
| 3+ 5 | 0.1388 | 0.78 | \|V Q | | | | |
| 3+10 | 0.1442 | 0.78 | \|V Q | | | | |
| 3+15 | 0.1495 | 0.78 | \|V Q | | | | |
| 3+20 | 0.1549 | 0.78 | \|V Q | | | | |
| 3+25 | 0.1603 | 0.78 | \|V Q | | | | |
| 3+30 | 0.1657 | 0.78 | \| VQ | | | | |
| 3+35 | 0.1710 | 0.78 | \| VQ | | | | |
| 3+40 | 0.1764 | 0.78 | \| VQ | | | | |
| 3+45 | 0.1818 | 0.78 | \| VQ | | | | |
| 3+50 | 0.1875 | 0.83 | \| VQ | | | | |
| 3+55 | 0.1938 | 0.91 | \| VQ | | | | |
| 4+ 0 | 0.2001 | 0.92 | \| VQ | | | | |
| 4+ 5 | 0.2065 | 0.93 | \| VQ | | | | |
| 4+10 | 0.2130 | 0.93 | \| VQ | | | | |
| 4+15 | 0.2194 | 0.94 | \| VQ | | | | |
| 4+20 | 0.2262 | 0.99 | \| VQ | | | | |
| 4+25 | 0.2336 | 1.06 | \| V Q | | | | |
| 4+30 | 0.2410 | 1.08 | \| V Q | | | | |
| 4+35 | 0.2485 | 1.09 | \|  VQ | | | | |
| 4+40 | 0.2560 | 1.09 | \|  VQ | | | | |
| 4+45 | 0.2635 | 1.09 | \|  VQ | | | | |
| 4+50 | 0.2714 | 1.15 | \|  VQ | | | | |
| 4+55 | 0.2798 | 1.22 | \|  VQ | | | | |
| 5+ 0 | 0.2883 | 1.24 | \|  VQ | | | | |
| 5+ 5 | 0.2961 | 1.13 | \|  VQ | | | | |
| 5+10 | 0.3029 | 0.99 | \|  Q | | | | |
| 5+15 | 0.3096 | 0.96 | \|  Q | | | | |
| 5+20 | 0.3164 | 1.00 | \|  VQ | | | | |
| 5+25 | 0.3238 | 1.07 | \|   Q | | | | |
| 5+30 | 0.3312 | 1.08 | \|   Q | | | | |
| 5+35 | 0.3391 | 1.14 | \|   Q | | | | |
| 5+40 | 0.3475 | 1.22 | \|   Q | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5+45 | 0.3560 | 1.24 | Q | | | |
| 5+50 | 0.3645 | 1.24 | Q | | | |
| 5+55 | 0.3731 | 1.25 | Q | | | |
| 6+ 0 | 0.3817 | 1.25 | Q | | | |
| 6+ 5 | 0.3907 | 1.30 | VQ | | | |
| 6+10 | 0.4001 | 1.37 | VQ | | | |
| 6+15 | 0.4097 | 1.39 | Q | | | |
| 6+20 | 0.4194 | 1.40 | Q | | | |
| 6+25 | 0.4290 | 1.40 | Q | | | |
| 6+30 | 0.4387 | 1.40 | Q | | | |
| 6+35 | 0.4487 | 1.46 | Q | | | |
| 6+40 | 0.4593 | 1.53 | VQ | | | |
| 6+45 | 0.4699 | 1.55 | VQ | | | |
| 6+50 | 0.4806 | 1.55 | VQ | | | |
| 6+55 | 0.4914 | 1.56 | Q | | | |
| 7+ 0 | 0.5021 | 1.56 | Q | | | |
| 7+ 5 | 0.5128 | 1.56 | Q | | | |
| 7+10 | 0.5236 | 1.56 | Q | | | |
| 7+15 | 0.5343 | 1.56 | Q | | | |
| 7+20 | 0.5454 | 1.61 | Q | | | |
| 7+25 | 0.5571 | 1.69 | Q | | | |
| 7+30 | 0.5688 | 1.70 | QV | | | |
| 7+35 | 0.5810 | 1.77 | Q | | | |
| 7+40 | 0.5936 | 1.84 | Q | | | |
| 7+45 | 0.6064 | 1.86 | Q | | | |
| 7+50 | 0.6197 | 1.92 | Q | | | |
| 7+55 | 0.6334 | 2.00 | Q | | | |
| 8+ 0 | 0.6473 | 2.02 | Q | | | |
| 8+ 5 | 0.6620 | 2.13 | Q | | | |
| 8+10 | 0.6777 | 2.28 | VQ | | | |
| 8+15 | 0.6936 | 2.32 | VQ | | | |
| 8+20 | 0.7097 | 2.33 | VQ | | | |
| 8+25 | 0.7258 | 2.34 | Q | | | |
| 8+30 | 0.7419 | 2.34 | Q | | | |
| 8+35 | 0.7584 | 2.39 | Q | | | |
| 8+40 | 0.7754 | 2.47 | Q | | | |
| 8+45 | 0.7925 | 2.48 | Q | | | |
| 8+50 | 0.8100 | 2.55 | Q | | | |
| 8+55 | 0.8280 | 2.62 | Q | | | |
| 9+ 0 | 0.8462 | 2.64 | Q | | | |
| 9+ 5 | 0.8652 | 2.76 | VQ | | | |
| 9+10 | 0.8852 | 2.90 | VQ | | | |
| 9+15 | 0.9054 | 2.94 | Q | | | |
| 9+20 | 0.9261 | 3.01 | VQ | | | |
| 9+25 | 0.9474 | 3.09 | VQ | | | |
| 9+30 | 0.9688 | 3.11 | Q | | | |
| 9+35 | 0.9906 | 3.17 | Q | | | |
| 9+40 | 1.0130 | 3.24 | Q | | | |
| 9+45 | 1.0355 | 3.26 | VQ | | | |
| 9+50 | 1.0584 | 3.32 | Q | | | |
| 9+55 | 1.0818 | 3.40 | Q | | | |
| 10+ 0 | 1.1053 | 3.42 | Q | | | |
| 10+ 5 | 1.1263 | 3.04 | QV | | | |
| 10+10 | 1.1438 | 2.54 | Q V | | | |
| 10+15 | 1.1605 | 2.43 | Q V | | | |
| 10+20 | 1.1769 | 2.37 | Q V | | | |
| 10+25 | 1.1930 | 2.35 | Q V | | | |
| 10+30 | 1.2091 | 2.34 | Q V | | | |
| 10+35 | 1.2271 | 2.61 | Q V | | | |
| 10+40 | 1.2476 | 2.97 | Q V | | | |
| 10+45 | 1.2687 | 3.06 | Q V | | | |
| 10+50 | 1.2900 | 3.09 | Q V | | | |
| 10+55 | 1.3114 | 3.11 | Q V | | | |
| 11+ 0 | 1.3329 | 3.12 | Q V | | | |
| 11+ 5 | 1.3540 | 3.06 | Q V | | | |
| 11+10 | 1.3746 | 2.99 | Q V | | | |
| 11+15 | 1.3951 | 2.98 | Q V | | | |
| 11+20 | 1.4156 | 2.97 | Q V | | | |
| 11+25 | 1.4360 | 2.96 | Q V | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11+30 | 1.4564 | 2.96 | \| | \|Q V \| | \| | \| |
| 11+35 | 1.4761 | 2.85 | \| | \|Q V \| | \| | \| |
| 11+40 | 1.4947 | 2.71 | \| | Q V \| | \| | \| |
| 11+45 | 1.5131 | 2.68 | \| | Q V \| | \| | \| |
| 11+50 | 1.5318 | 2.72 | \| | Q V\| | \| | \| |
| 11+55 | 1.5510 | 2.78 | \| | \|Q V\| | \| | \| |
| 12+ 0 | 1.5703 | 2.80 | \| | \|Q V\| | \| | \| |
| 12+ 5 | 1.5922 | 3.18 | \| | \| Q V\| | \| | \| |
| 12+10 | 1.6176 | 3.69 | \| | \| Q V | \| | \| |
| 12+15 | 1.6439 | 3.81 | \| | \| Q V | \| | \| |
| 12+20 | 1.6709 | 3.92 | \| | \| Q V | \| | \| |
| 12+25 | 1.6985 | 4.02 | \| | \| Q \|V | \| | \| |
| 12+30 | 1.7264 | 4.04 | \| | \| Q \|V | \| | \| |
| 12+35 | 1.7550 | 4.16 | \| | \| Q \|V | \| | \| |
| 12+40 | 1.7847 | 4.31 | \| | \| Q \| V | \| | \| |
| 12+45 | 1.8146 | 4.34 | \| | \| Q \| V | \| | \| |
| 12+50 | 1.8450 | 4.41 | \| | \| Q \| V | \| | \| |
| 12+55 | 1.8759 | 4.49 | \| | \| Q \| V | \| | \| |
| 13+ 0 | 1.9070 | 4.51 | \| | \| Q \| V | \| | \| |
| 13+ 5 | 1.9400 | 4.79 | \| | \| Q\| V | \| | \| |
| 13+10 | 1.9755 | 5.16 | \| | \| Q V | \| | \| |
| 13+15 | 2.0116 | 5.24 | \| | \| Q V | \| | \| |
| 13+20 | 2.0479 | 5.28 | \| | \| \|Q V | \| | \| |
| 13+25 | 2.0844 | 5.30 | \| | \| \|Q V | \| | \| |
| 13+30 | 2.1209 | 5.30 | \| | \| \|Q V | \| | \| |
| 13+35 | 2.1533 | 4.70 | \| | \| Q \| V | \| | \| |
| 13+40 | 2.1802 | 3.91 | \| | \| Q \| V | \| | \| |
| 13+45 | 2.2059 | 3.72 | \| | \| Q \| V | \| | \| |
| 13+50 | 2.2309 | 3.64 | \| | \| Q \| V | \| | \| |
| 13+55 | 2.2558 | 3.60 | \| | \| Q \| V | \| | \| |
| 14+ 0 | 2.2805 | 3.59 | \| | \| Q \| V | \| | \| |
| 14+ 5 | 2.3067 | 3.81 | \| | \| Q \| V | \| | \| |
| 14+10 | 2.3349 | 4.10 | \| | \| Q \| V | \| | \| |
| 14+15 | 2.3635 | 4.16 | \| | \| Q \| V\| | \| | \| |
| 14+20 | 2.3920 | 4.14 | \| | \| Q \| V\| | \| | \| |
| 14+25 | 2.4201 | 4.08 | \| | \| Q \| V | \| | \| |
| 14+30 | 2.4481 | 4.07 | \| | \| Q \| V | \| | \| |
| 14+35 | 2.4761 | 4.06 | \| | \| Q \| V | \| | \| |
| 14+40 | 2.5040 | 4.06 | \| | \| Q \| \|V | \| | \| |
| 14+45 | 2.5320 | 4.06 | \| | \| Q \| \|V | \| | \| |
| 14+50 | 2.5595 | 4.00 | \| | \| Q \| \|V | \| | \| |
| 14+55 | 2.5866 | 3.93 | \| | \| Q \| \| V | \| | \| |
| 15+ 0 | 2.6135 | 3.91 | \| | \| Q \| \| V | \| | \| |
| 15+ 5 | 2.6400 | 3.85 | \| | \| Q \| \| V | \| | \| |
| 15+10 | 2.6660 | 3.77 | \| | \| Q \| \| V | \| | \| |
| 15+15 | 2.6919 | 3.76 | \| | \| Q \| \| V | \| | \| |
| 15+20 | 2.7173 | 3.69 | \| | \| Q \| \| V | \| | \| |
| 15+25 | 2.7422 | 3.62 | \| | \| Q \| \| V | \| | \| |
| 15+30 | 2.7670 | 3.60 | \| | \| Q \| \| V | \| | \| |
| 15+35 | 2.7903 | 3.37 | \| | \| Q \| \| V | \| | \| |
| 15+40 | 2.8115 | 3.08 | \| | \| Q \| \| V | \| | \| |
| 15+45 | 2.8322 | 3.01 | \| | \| Q \| \| V | \| | \| |
| 15+50 | 2.8528 | 2.98 | \| | \|Q \| \| V | \| | \| |
| 15+55 | 2.8732 | 2.97 | \| | \|Q \| \| V | \| | \| |
| 16+ 0 | 2.8936 | 2.96 | \| | \|Q \| \| V | \| | \| |
| 16+ 5 | 2.9084 | 2.15 | \| | Q \| \| \| V | \| | \| |
| 16+10 | 2.9157 | 1.06 | \| | Q \| \| \| V | \| | \| |
| 16+15 | 2.9213 | 0.81 | \| | Q \| \| \| V | \| | \| |
| 16+20 | 2.9261 | 0.70 | \| | Q \| \| \| V | \| | \| |
| 16+25 | 2.9305 | 0.65 | \| | Q \| \| \| V | \| | \| |
| 16+30 | 2.9348 | 0.62 | \| | Q \| \| \| V | \| | \| |
| 16+35 | 2.9387 | 0.57 | \| | Q \| \| \| V | \| | \| |
| 16+40 | 2.9422 | 0.50 | \| | \|Q \| \| \| V | \| | \| |
| 16+45 | 2.9455 | 0.48 | \| | \|Q \| \| \| V | \| | \| |
| 16+50 | 2.9487 | 0.47 | \| | \|Q \| \| \| V | \| | \| |
| 16+55 | 2.9520 | 0.47 | \| | \|Q \| \| \| V | \| | \| |
| 17+ 0 | 2.9552 | 0.47 | \| | \|Q \| \| \| V | \| | \| |
| 17+ 5 | 2.9591 | 0.58 | \| | \| Q \| \| \| V | \| | \| |
| 17+10 | 2.9641 | 0.72 | \| | \| Q \| \| \| V | \| | \| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+15 | 2.9693 | 0.76 | \| Q | \| | \| | \| | V \| |
| 17+20 | 2.9746 | 0.77 | \| Q | \| | \| | \| | V \| |
| 17+25 | 2.9800 | 0.78 | \| Q | \| | \| | \| | V \| |
| 17+30 | 2.9853 | 0.78 | \| Q | \| | \| | \| | V \| |
| 17+35 | 2.9907 | 0.78 | \| Q | \| | \| | \| | V \| |
| 17+40 | 2.9961 | 0.78 | \| Q | \| | \| | \| | V \| |
| 17+45 | 3.0015 | 0.78 | \| Q | \| | \| | \| | V \| |
| 17+50 | 3.0065 | 0.73 | \| Q | \| | \| | \| | V \| |
| 17+55 | 3.0110 | 0.65 | \| Q | \| | \| | \| | V \| |
| 18+ 0 | 3.0153 | 0.64 | \| Q | \| | \| | \| | V \| |
| 18+ 5 | 3.0197 | 0.63 | \| Q | \| | \| | \| | V \| |
| 18+10 | 3.0240 | 0.63 | \| Q | \| | \| | \| | V \| |
| 18+15 | 3.0283 | 0.62 | \| Q | \| | \| | \| | V \| |
| 18+20 | 3.0326 | 0.62 | \| Q | \| | \| | \| | V \| |
| 18+25 | 3.0369 | 0.62 | \| Q | \| | \| | \| | V \| |
| 18+30 | 3.0412 | 0.62 | \| Q | \| | \| | \| | V \| |
| 18+35 | 3.0451 | 0.57 | \| Q | \| | \| | \| | V \| |
| 18+40 | 3.0485 | 0.50 | \|Q | \| | \| | \| | V \| |
| 18+45 | 3.0518 | 0.48 | \|Q | \| | \| | \| | V \| |
| 18+50 | 3.0547 | 0.42 | \|Q | \| | \| | \| | V \| |
| 18+55 | 3.0570 | 0.34 | \|Q | \| | \| | \| | V \| |
| 19+ 0 | 3.0593 | 0.32 | \|Q | \| | \| | \| | V \| |
| 19+ 5 | 3.0618 | 0.37 | \|Q | \| | \| | \| | V \| |
| 19+10 | 3.0649 | 0.44 | \|Q | \| | \| | \| | V \| |
| 19+15 | 3.0680 | 0.46 | \|Q | \| | \| | \| | V \| |
| 19+20 | 3.0716 | 0.52 | \| Q | \| | \| | \| | V \| |
| 19+25 | 3.0757 | 0.59 | \| Q | \| | \| | \| | V \| |
| 19+30 | 3.0799 | 0.61 | \| Q | \| | \| | \| | V \| |
| 19+35 | 3.0838 | 0.56 | \| Q | \| | \| | \| | V \| |
| 19+40 | 3.0872 | 0.50 | \|Q | \| | \| | \| | V \| |
| 19+45 | 3.0905 | 0.48 | \|Q | \| | \| | \| | V \| |
| 19+50 | 3.0934 | 0.42 | \|Q | \| | \| | \| | V \| |
| 19+55 | 3.0957 | 0.34 | \|Q | \| | \| | \| | V \| |
| 20+ 0 | 3.0979 | 0.32 | \|Q | \| | \| | \| | V \| |
| 20+ 5 | 3.1005 | 0.37 | \|Q | \| | \| | \| | V \| |
| 20+10 | 3.1035 | 0.44 | \|Q | \| | \| | \| | V \| |
| 20+15 | 3.1067 | 0.46 | \|Q | \| | \| | \| | V \| |
| 20+20 | 3.1099 | 0.46 | \|Q | \| | \| | \| | V \| |
| 20+25 | 3.1131 | 0.47 | \|Q | \| | \| | \| | V \| |
| 20+30 | 3.1163 | 0.47 | \|Q | \| | \| | \| | V \| |
| 20+35 | 3.1195 | 0.47 | \|Q | \| | \| | \| | V \| |
| 20+40 | 3.1227 | 0.47 | \|Q | \| | \| | \| | V \| |
| 20+45 | 3.1260 | 0.47 | \|Q | \| | \| | \| | V \| |
| 20+50 | 3.1288 | 0.41 | \|Q | \| | \| | \| | V \| |
| 20+55 | 3.1312 | 0.34 | \|Q | \| | \| | \| | V \| |
| 21+ 0 | 3.1334 | 0.32 | \|Q | \| | \| | \| | V \| |
| 21+ 5 | 3.1360 | 0.37 | \|Q | \| | \| | \| | V \| |
| 21+10 | 3.1390 | 0.44 | \|Q | \| | \| | \| | V \| |
| 21+15 | 3.1421 | 0.46 | \|Q | \| | \| | \| | V\| |
| 21+20 | 3.1449 | 0.41 | \|Q | \| | \| | \| | V\| |
| 21+25 | 3.1473 | 0.34 | \|Q | \| | \| | \| | V\| |
| 21+30 | 3.1495 | 0.32 | \|Q | \| | \| | \| | V\| |
| 21+35 | 3.1521 | 0.37 | \|Q | \| | \| | \| | V\| |
| 21+40 | 3.1551 | 0.44 | \|Q | \| | \| | \| | V\| |
| 21+45 | 3.1582 | 0.46 | \|Q | \| | \| | \| | V\| |
| 21+50 | 3.1611 | 0.41 | \|Q | \| | \| | \| | V\| |
| 21+55 | 3.1634 | 0.34 | \|Q | \| | \| | \| | V\| |
| 22+ 0 | 3.1656 | 0.32 | \|Q | \| | \| | \| | V\| |
| 22+ 5 | 3.1682 | 0.37 | \|Q | \| | \| | \| | V\| |
| 22+10 | 3.1712 | 0.44 | \|Q | \| | \| | \| | V\| |
| 22+15 | 3.1744 | 0.46 | \|Q | \| | \| | \| | V\| |
| 22+20 | 3.1772 | 0.41 | \|Q | \| | \| | \| | V\| |
| 22+25 | 3.1795 | 0.34 | \|Q | \| | \| | \| | V\| |
| 22+30 | 3.1817 | 0.32 | \|Q | \| | \| | \| | V\| |
| 22+35 | 3.1839 | 0.32 | \|Q | \| | \| | \| | V\| |
| 22+40 | 3.1861 | 0.31 | \|Q | \| | \| | \| | V\| |
| 22+45 | 3.1882 | 0.31 | \|Q | \| | \| | \| | V\| |
| 22+50 | 3.1904 | 0.31 | \|Q | \| | \| | \| | V\| |
| 22+55 | 3.1925 | 0.31 | \|Q | \| | \| | \| | V\| |

```
   23+ 0       3.1947      0.31  |Q        |         |         |        V|
   23+ 5       3.1968      0.31  |Q        |         |         |        V|
   23+10       3.1990      0.31  |Q        |         |         |        V|
   23+15       3.2011      0.31  |Q        |         |         |        V|
   23+20       3.2033      0.31  |Q        |         |         |        V|
   23+25       3.2054      0.31  |Q        |         |         |        V|
   23+30       3.2076      0.31  |Q        |         |         |        V|
   23+35       3.2097      0.31  |Q        |         |         |        V|
   23+40       3.2119      0.31  |Q        |         |         |        V|
   23+45       3.2140      0.31  |Q        |         |         |        V|
   23+50       3.2162      0.31  |Q        |         |         |        V|
   23+55       3.2183      0.31  |Q        |         |         |        V|
   24+ 0       3.2204      0.31  |Q        |         |         |        V|
   24+ 5       3.2218      0.20  Q         |         |         |        V|
   24+10       3.2222      0.06  Q         |         |         |        V|
   24+15       3.2224      0.02  Q         |         |         |        V|
   24+20       3.2225      0.01  Q         |         |         |        V|
   24+25       3.2225      0.00  Q         |         |         |        V|
------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: DEVHYD110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
10-YEAR STORM
BY: JTS DATE: 03-02-23
---
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.56 | 7.99 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.28 | 18.27 |

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.560(In)
Area Averaged 100-Year Rainfall = 1.280(In)

Point rain (area averaged) = 0.856(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.856(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
          14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 46.6  46.6      0.605     0.159        0.519       1.000      0.519
                                                  Sum (F) =   0.519
 Area averaged mean soil loss (F) (In/Hr) =  0.519
 Minimum soil loss rate ((In/Hr)) =  0.259
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.259
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5300
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %           (CFS)
 ------------------------------------------------------------------
     1   0.083        157.487         34.939             5.025
     2   0.167        314.973         46.456             6.681
     3   0.250        472.460         10.764             1.548
     4   0.333        629.946          4.657             0.670
     5   0.417        787.433          2.267             0.326
     6   0.500        944.919          0.918             0.132
                                Sum = 100.000   Sum=      14.381
-----------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     3.40      0.349       (  0.519)      0.090        0.259
   2   0.17     4.70      0.483       (  0.519)      0.125        0.358
   3   0.25     4.70      0.483       (  0.519)      0.125        0.358
   4   0.33     5.10      0.524       (  0.519)      0.136        0.388
   5   0.42     5.80      0.596       (  0.519)      0.154        0.442
   6   0.50     5.90      0.606       (  0.519)      0.157        0.449
   7   0.58     7.10      0.729       (  0.519)      0.189        0.540
   8   0.67     8.70      0.894       (  0.519)      0.231        0.662
   9   0.75    13.20      1.356       (  0.519)      0.351        1.005
  10   0.83    29.70      3.051          0.519    (  0.790)      2.532
  11   0.92     7.70      0.791       (  0.519)      0.205        0.586
  12   1.00     4.00      0.411       (  0.519)      0.106        0.304
                (Loss Rate Not Used)
     Sum =     100.0                                 Sum =     7.9
        Flood volume = Effective rainfall      0.66(In)
         times area      14.3(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
        Total soil loss =      0.20(In)
        Total soil loss =     0.237(Ac.Ft)
        Total rainfall =      0.86(In)
        Flood volume =       34032.7 Cubic Feet
        Total soil loss =       10313.5 Cubic Feet
        ------------------------------------------------------------------
         Peak flow rate of this hydrograph =     22.111(CFS)
        ------------------------------------------------------------------
        ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
        ------------------------------------------------------------------
                    Hydrograph in   5   Minute intervals ((CFS))
```

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0090 | 1.30 | VQ | | | | |
| 0+10 | 0.0333 | 3.53 | V Q | | | | |
| 0+15 | 0.0649 | 4.59 | V Q | | | | |
| 0+20 | 0.0998 | 5.07 | VQ | | | | |
| 0+25 | 0.1390 | 5.69 | Q | | | | |
| 0+30 | 0.1817 | 6.20 | QV | | | | |
| 0+35 | 0.2287 | 6.83 | Q V | | | | |
| 0+40 | 0.2846 | 8.11 | Q V | | | | |
| 0+45 | 0.3590 | 10.81 | Q V | | | | |
| 0+50 | 0.5040 | 21.04 | V Q | | | | |
| 0+55 | 0.6562 | 22.11 | Q V | | | | |
| 1+ 0 | 0.7274 | 10.33 | Q | | | V | |
| 1+ 5 | 0.7622 | 5.06 | Q | | | V | |
| 1+10 | 0.7748 | 1.82 | Q | | | V | |
| 1+15 | 0.7798 | 0.73 | Q | | | V | |
| 1+20 | 0.7810 | 0.18 | Q | | | V | |
| 1+25 | 0.7813 | 0.04 | Q | | | V | |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: DEVHYD310.out

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---------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

---------------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
10-YEAR STORM
BY: JTS  DATE: 03-02-23
---------------------------------------------------------------------------
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.96 | 13.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.23 | 31.82 |

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.960(In)
Area Averaged 100-Year Rainfall = 2.230(In)

Point rain (area averaged) = 1.482(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.482(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
    14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  46.6      0.605     0.159        0.519       1.000      0.519
                                                 Sum (F) =   0.519
Area averaged mean soil loss (F) (In/Hr) =  0.519
Minimum soil loss rate ((In/Hr)) =  0.259
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     1.30      0.231       (  0.519)       0.060        0.171
    2   0.17     1.30      0.231       (  0.519)       0.060        0.171
    3   0.25     1.10      0.196       (  0.519)       0.051        0.145
    4   0.33     1.50      0.267       (  0.519)       0.069        0.198
    5   0.42     1.50      0.267       (  0.519)       0.069        0.198
    6   0.50     1.80      0.320       (  0.519)       0.083        0.237
    7   0.58     1.50      0.267       (  0.519)       0.069        0.198
    8   0.67     1.80      0.320       (  0.519)       0.083        0.237
    9   0.75     1.80      0.320       (  0.519)       0.083        0.237
   10   0.83     1.50      0.267       (  0.519)       0.069        0.198
   11   0.92     1.60      0.285       (  0.519)       0.074        0.211
   12   1.00     1.80      0.320       (  0.519)       0.083        0.237
   13   1.08     2.20      0.391       (  0.519)       0.101        0.290
   14   1.17     2.20      0.391       (  0.519)       0.101        0.290
   15   1.25     2.20      0.391       (  0.519)       0.101        0.290
   16   1.33     2.00      0.356       (  0.519)       0.092        0.264
   17   1.42     2.60      0.463       (  0.519)       0.120        0.343
   18   1.50     2.70      0.480       (  0.519)       0.124        0.356
   19   1.58     2.40      0.427       (  0.519)       0.111        0.316
   20   1.67     2.70      0.480       (  0.519)       0.124        0.356
   21   1.75     3.30      0.587       (  0.519)       0.152        0.435
   22   1.83     3.10      0.551       (  0.519)       0.143        0.409
   23   1.92     2.90      0.516       (  0.519)       0.134        0.382
   24   2.00     3.00      0.534       (  0.519)       0.138        0.395
   25   2.08     3.10      0.551       (  0.519)       0.143        0.409
   26   2.17     4.20      0.747       (  0.519)       0.194        0.554
   27   2.25     5.00      0.889       (  0.519)       0.230        0.659
   28   2.33     3.50      0.623       (  0.519)       0.161        0.461
   29   2.42     6.80      1.210       (  0.519)       0.313        0.896
   30   2.50     7.30      1.299       (  0.519)       0.336        0.962
   31   2.58     8.20      1.459       (  0.519)       0.378        1.081
   32   2.67     5.90      1.050       (  0.519)       0.272        0.778
```

```
33   2.75     2.00      0.356       (  0.519)       0.092        0.264
34   2.83     1.80      0.320       (  0.519)       0.083        0.237
35   2.92     1.80      0.320       (  0.519)       0.083        0.237
36   3.00     0.60      0.107       (  0.519)       0.028        0.079
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    13.2
      Flood volume = Effective rainfall      1.10(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       1.3(Ac.Ft)
      Total soil loss =      0.38(In)
      Total soil loss =     0.457(Ac.Ft)
      Total rainfall =      1.48(In)
      Flood volume =       56900.1 Cubic Feet
      Total soil loss =       19888.2 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     13.852(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0059      0.86  VQ        |         |         |         |
  0+10       0.0198      2.01  V   Q     |         |         |         |
  0+15       0.0345      2.14  |V  Q     |         |         |         |
  0+20       0.0506      2.34  |V  Q     |         |         |         |
  0+25       0.0693      2.71  | V  Q    |         |         |         |
  0+30       0.0899      3.00  | V  Q    |         |         |         |
  0+35       0.1112      3.09  |  V  Q   |         |         |         |
  0+40       0.1325      3.10  |   V Q   |         |         |         |
  0+45       0.1555      3.33  |   V Q   |         |         |         |
  0+50       0.1774      3.18  |    VQ   |         |         |         |
  0+55       0.1981      3.00  |     Q   |         |         |         |
  1+ 0       0.2200      3.17  |     Q   |         |         |         |
  1+ 5       0.2448      3.61  |      Q  |         |         |         |
  1+10       0.2724      4.00  |       Q |         |         |         |
  1+15       0.3006      4.10  |       QV|         |         |         |
  1+20       0.3283      4.01  |       Q V         |         |         |
  1+25       0.3576      4.25  |       Q V         |         |         |
  1+30       0.3907      4.82  |        Q|V        |         |         |
  1+35       0.4239      4.81  |        Q| V       |         |         |
  1+40       0.4570      4.81  |        Q|  V      |         |         |
  1+45       0.4944      5.44  |         Q    V    |         |         |
  1+50       0.5350      5.89  |         |Q    V   |         |         |
  1+55       0.5744      5.72  |         |Q     V  |         |         |
  2+ 0       0.6131      5.63  |         |Q      V |         |         |
  2+ 5       0.6527      5.75  |         |Q       V|         |         |
  2+10       0.6980      6.57  |         |  Q      |V        |         |
  2+15       0.7537      8.09  |         |     Q   |  V      |         |
  2+20       0.8090      8.04  |         |     Q   |   V     |         |
  2+25       0.8722      9.17  |         |       Q |     V   |         |
  2+30       0.9563     12.22  |         |         |   Q    V|         |
  2+35       1.0517     13.85  |         |         |      Q  | V       |
  2+40       1.1445     13.46  |         |         |     Q   |    V    |
  2+45       1.2078      9.20  |         |       Q |         |     V   |
  2+50       1.2444      5.32  |         Q         |         |       V |
  2+55       1.2732      4.19  |       Q |         |         |       V |
  3+ 0       1.2934      2.92  |    Q    |         |         |        V|
  3+ 5       1.3020      1.24  | Q       |         |         |        V|
  3+10       1.3047      0.39  Q         |         |         |        V|
  3+15       1.3058      0.16  Q         |         |         |        V|
  3+20       1.3062      0.06  Q         |         |         |        V|
  3+25       1.3062      0.01  Q         |         |         |        V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: DEVHYD610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

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English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---

225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
10-YEAR STORM
BY: JTS DATE: 03-02-23

---

Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.42 | 20.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 3.15 | 44.95 |

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.420(In)
Area Averaged 100-Year Rainfall = 3.150(In)

Point rain (area averaged) = 2.132(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.132(In)

Sub-Area Data:

| Area(Ac.) | Runoff Index | Impervious % |
|---|---|---|

```
   14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  46.6      0.605     0.159        0.519       1.000      0.519
                                                 Sum (F) =   0.519
Area averaged mean soil loss (F) (In/Hr) =  0.519
Minimum soil loss rate ((In/Hr)) =  0.259
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     0.50      0.128       (  0.519)       0.033        0.095
    2   0.17     0.60      0.153       (  0.519)       0.040        0.114
    3   0.25     0.60      0.153       (  0.519)       0.040        0.114
    4   0.33     0.60      0.153       (  0.519)       0.040        0.114
    5   0.42     0.60      0.153       (  0.519)       0.040        0.114
    6   0.50     0.70      0.179       (  0.519)       0.046        0.133
    7   0.58     0.70      0.179       (  0.519)       0.046        0.133
    8   0.67     0.70      0.179       (  0.519)       0.046        0.133
    9   0.75     0.70      0.179       (  0.519)       0.046        0.133
   10   0.83     0.70      0.179       (  0.519)       0.046        0.133
   11   0.92     0.70      0.179       (  0.519)       0.046        0.133
   12   1.00     0.80      0.205       (  0.519)       0.053        0.152
   13   1.08     0.80      0.205       (  0.519)       0.053        0.152
   14   1.17     0.80      0.205       (  0.519)       0.053        0.152
   15   1.25     0.80      0.205       (  0.519)       0.053        0.152
   16   1.33     0.80      0.205       (  0.519)       0.053        0.152
   17   1.42     0.80      0.205       (  0.519)       0.053        0.152
   18   1.50     0.80      0.205       (  0.519)       0.053        0.152
   19   1.58     0.80      0.205       (  0.519)       0.053        0.152
   20   1.67     0.80      0.205       (  0.519)       0.053        0.152
   21   1.75     0.80      0.205       (  0.519)       0.053        0.152
   22   1.83     0.80      0.205       (  0.519)       0.053        0.152
   23   1.92     0.80      0.205       (  0.519)       0.053        0.152
   24   2.00     0.90      0.230       (  0.519)       0.060        0.171
   25   2.08     0.80      0.205       (  0.519)       0.053        0.152
   26   2.17     0.90      0.230       (  0.519)       0.060        0.171
   27   2.25     0.90      0.230       (  0.519)       0.060        0.171
   28   2.33     0.90      0.230       (  0.519)       0.060        0.171
   29   2.42     0.90      0.230       (  0.519)       0.060        0.171
   30   2.50     0.90      0.230       (  0.519)       0.060        0.171
   31   2.58     0.90      0.230       (  0.519)       0.060        0.171
   32   2.67     0.90      0.230       (  0.519)       0.060        0.171
```

```
33   2.75     1.00      0.256       (  0.519)       0.066        0.190
34   2.83     1.00      0.256       (  0.519)       0.066        0.190
35   2.92     1.00      0.256       (  0.519)       0.066        0.190
36   3.00     1.00      0.256       (  0.519)       0.066        0.190
37   3.08     1.00      0.256       (  0.519)       0.066        0.190
38   3.17     1.10      0.281       (  0.519)       0.073        0.208
39   3.25     1.10      0.281       (  0.519)       0.073        0.208
40   3.33     1.10      0.281       (  0.519)       0.073        0.208
41   3.42     1.20      0.307       (  0.519)       0.080        0.227
42   3.50     1.30      0.333       (  0.519)       0.086        0.246
43   3.58     1.40      0.358       (  0.519)       0.093        0.265
44   3.67     1.40      0.358       (  0.519)       0.093        0.265
45   3.75     1.50      0.384       (  0.519)       0.099        0.284
46   3.83     1.50      0.384       (  0.519)       0.099        0.284
47   3.92     1.60      0.409       (  0.519)       0.106        0.303
48   4.00     1.60      0.409       (  0.519)       0.106        0.303
49   4.08     1.70      0.435       (  0.519)       0.113        0.322
50   4.17     1.80      0.460       (  0.519)       0.119        0.341
51   4.25     1.90      0.486       (  0.519)       0.126        0.360
52   4.33     2.00      0.512       (  0.519)       0.133        0.379
53   4.42     2.10      0.537       (  0.519)       0.139        0.398
54   4.50     2.10      0.537       (  0.519)       0.139        0.398
55   4.58     2.20      0.563       (  0.519)       0.146        0.417
56   4.67     2.30      0.588       (  0.519)       0.152        0.436
57   4.75     2.40      0.614       (  0.519)       0.159        0.455
58   4.83     2.40      0.614       (  0.519)       0.159        0.455
59   4.92     2.50      0.639       (  0.519)       0.166        0.474
60   5.00     2.60      0.665       (  0.519)       0.172        0.493
61   5.08     3.10      0.793       (  0.519)       0.205        0.588
62   5.17     3.60      0.921       (  0.519)       0.239        0.682
63   5.25     3.90      0.998       (  0.519)       0.258        0.739
64   5.33     4.20      1.074       (  0.519)       0.278        0.796
65   5.42     4.70      1.202       (  0.519)       0.311        0.891
66   5.50     5.60      1.432       (  0.519)       0.371        1.061
67   5.58     1.90      0.486       (  0.519)       0.126        0.360
68   5.67     0.90      0.230       (  0.519)       0.060        0.171
69   5.75     0.60      0.153       (  0.519)       0.040        0.114
70   5.83     0.50      0.128       (  0.519)       0.033        0.095
71   5.92     0.30      0.077       (  0.519)       0.020        0.057
72   6.00     0.20      0.051       (  0.519)       0.013        0.038
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    19.0
      Flood volume = Effective rainfall      1.58(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       1.9(Ac.Ft)
      Total soil loss =      0.55(In)
      Total soil loss =     0.657(Ac.Ft)
      Total rainfall =      2.13(In)
      Flood volume =       81820.3 Cubic Feet
      Total soil loss =       28598.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     13.320(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0033      0.48  Q         |         |         |         |
  0+10       0.0116      1.21  V Q       |         |         |         |
  0+15       0.0218      1.48  V Q       |         |         |         |
  0+20       0.0326      1.57  V  Q      |         |         |         |
  0+25       0.0437      1.62  V  Q      |         |         |         |
  0+30       0.0556      1.73  |V Q      |         |         |         |
  0+35       0.0684      1.86  |V Q      |         |         |         |
  0+40       0.0814      1.89  |V Q      |         |         |         |
```

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0+45      0.0945     1.90  | VQ      |         |         |         |
0+50      0.1076     1.91  | VQ      |         |         |         |
0+55      0.1208     1.91  | VQ      |         |         |         |
1+ 0      0.1346     2.00  | V Q     |         |         |         |
1+ 5      0.1493     2.13  |  VQ     |         |         |         |
1+10      0.1642     2.16  |  VQ     |         |         |         |
1+15      0.1791     2.17  |  VQ     |         |         |         |
1+20      0.1941     2.18  |   Q     |         |         |         |
1+25      0.2092     2.18  |   Q     |         |         |         |
1+30      0.2242     2.18  |   Q     |         |         |         |
1+35      0.2392     2.18  |   QV    |         |         |         |
1+40      0.2542     2.18  |   QV    |         |         |         |
1+45      0.2693     2.18  |   QV    |         |         |         |
1+50      0.2843     2.18  |   Q V   |         |         |         |
1+55      0.2993     2.18  |   Q V   |         |         |         |
2+ 0      0.3150     2.28  |   Q V   |         |         |         |
2+ 5      0.3309     2.31  |   Q  V  |         |         |         |
2+10      0.3468     2.31  |   Q  V  |         |         |         |
2+15      0.3634     2.42  |   Q  V  |         |         |         |
2+20      0.3802     2.44  |   Q   V |         |         |         |
2+25      0.3971     2.45  |   Q   V |         |         |         |
2+30      0.4140     2.45  |   Q   V |         |         |         |
2+35      0.4309     2.45  |   Q    V|         |         |         |
2+40      0.4478     2.45  |   Q    V|         |         |         |
2+45      0.4653     2.55  |    Q   V|         |         |         |
2+50      0.4838     2.68  |    Q    V         |         |         |
2+55      0.5024     2.71  |    Q    V         |         |         |
3+ 0      0.5211     2.72  |    Q    |V        |         |         |
3+ 5      0.5399     2.72  |    Q    |V        |         |         |
3+10      0.5593     2.82  |    Q    |V        |         |         |
3+15      0.5797     2.95  |    Q    | V       |         |         |
3+20      0.6002     2.98  |    Q    | V       |         |         |
3+25      0.6214     3.09  |     Q   |  V      |         |         |
3+30      0.6443     3.31  |     Q   |  V      |         |         |
3+35      0.6688     3.57  |      Q  |   V     |         |         |
3+40      0.6946     3.74  |      Q  |   V     |         |         |
3+45      0.7213     3.88  |      Q  |    V    |         |         |
3+50      0.7491     4.03  |       Q |    V    |         |         |
3+55      0.7777     4.16  |       Q |     V   |         |         |
4+ 0      0.8074     4.30  |       Q |      V  |         |         |
4+ 5      0.8379     4.44  |       Q |      V  |         |         |
4+10      0.8701     4.67  |        Q|       V |         |         |
4+15      0.9040     4.93  |        Q|        V|         |         |
4+20      0.9398     5.20  |         Q         V         |         |
4+25      0.9775     5.47  |         Q         V         |         |
4+30      1.0164     5.64  |         |Q        |V        |         |
4+35      1.0562     5.79  |         |Q        | V       |         |
4+40      1.0978     6.03  |         | Q       |  V      |         |
4+45      1.1411     6.29  |         | Q       |   V     |         |
4+50      1.1856     6.46  |         | Q       |    V    |         |
4+55      1.2312     6.61  |         |  Q      |     V   |         |
5+ 0      1.2783     6.85  |         |  Q      |      V  |         |
5+ 5      1.3300     7.49  |         |   Q     |       V |         |
5+10      1.3895     8.65  |         |      Q  |        V|         |
5+15      1.4565     9.73  |         |        Q|         |V        |
5+20      1.5297    10.62  |         |         |Q        | V       |
5+25      1.6100    11.66  |         |         |  Q      |   V     |
5+30      1.7017    13.32  |         |         |    Q    |     V   |
5+35      1.7785    11.15  |         |         | Q       |      V  |
5+40      1.8189     5.86  |         |Q        |         |       V |
5+45      1.8421     3.38  |     Q   |         |         |        V|
5+50      1.8573     2.21  |   Q     |         |         |        V|
5+55      1.8674     1.47  | Q       |         |         |        V|
6+ 0      1.8736     0.90  |Q        |         |         |        V|
6+ 5      1.8768     0.46  Q         |         |         |        V|
6+10      1.8778     0.14  Q         |         |         |        V|
6+15      1.8782     0.06  Q         |         |         |        V|
6+20      1.8783     0.02  Q         |         |         |        V|
6+25      1.8783     0.01  Q         |         |         |         V
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: DEVHYD2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
10-YEAR STORM
BY: JTS DATE: 03-02-23
---
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.65 | 37.82 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 6.95 | 99.18 |

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.650(In)
Area Averaged 100-Year Rainfall = 6.950(In)

Point rain (area averaged) = 4.419(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.419(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
    14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  46.6      0.605     0.159        0.519       1.000      0.519
                                                 Sum (F) =   0.519
Area averaged mean soil loss (F) (In/Hr) =  0.519
Minimum soil loss rate ((In/Hr)) =  0.259
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     0.07      0.035       (  0.920)       0.009        0.026
    2   0.17     0.07      0.035       (  0.916)       0.009        0.026
    3   0.25     0.07      0.035       (  0.912)       0.009        0.026
    4   0.33     0.10      0.053       (  0.909)       0.014        0.039
    5   0.42     0.10      0.053       (  0.905)       0.014        0.039
    6   0.50     0.10      0.053       (  0.902)       0.014        0.039
    7   0.58     0.10      0.053       (  0.898)       0.014        0.039
    8   0.67     0.10      0.053       (  0.895)       0.014        0.039
    9   0.75     0.10      0.053       (  0.891)       0.014        0.039
   10   0.83     0.13      0.071       (  0.888)       0.018        0.052
   11   0.92     0.13      0.071       (  0.884)       0.018        0.052
   12   1.00     0.13      0.071       (  0.881)       0.018        0.052
   13   1.08     0.10      0.053       (  0.877)       0.014        0.039
   14   1.17     0.10      0.053       (  0.874)       0.014        0.039
   15   1.25     0.10      0.053       (  0.870)       0.014        0.039
   16   1.33     0.10      0.053       (  0.867)       0.014        0.039
   17   1.42     0.10      0.053       (  0.863)       0.014        0.039
   18   1.50     0.10      0.053       (  0.860)       0.014        0.039
   19   1.58     0.10      0.053       (  0.857)       0.014        0.039
   20   1.67     0.10      0.053       (  0.853)       0.014        0.039
   21   1.75     0.10      0.053       (  0.850)       0.014        0.039
   22   1.83     0.13      0.071       (  0.846)       0.018        0.052
   23   1.92     0.13      0.071       (  0.843)       0.018        0.052
   24   2.00     0.13      0.071       (  0.839)       0.018        0.052
   25   2.08     0.13      0.071       (  0.836)       0.018        0.052
   26   2.17     0.13      0.071       (  0.833)       0.018        0.052
   27   2.25     0.13      0.071       (  0.829)       0.018        0.052
   28   2.33     0.13      0.071       (  0.826)       0.018        0.052
   29   2.42     0.13      0.071       (  0.823)       0.018        0.052
   30   2.50     0.13      0.071       (  0.819)       0.018        0.052
   31   2.58     0.17      0.088       (  0.816)       0.023        0.065
   32   2.67     0.17      0.088       (  0.813)       0.023        0.065
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 33 | 2.75 | 0.17 | 0.088 | ( 0.809) | 0.023 | 0.065 |
| 34 | 2.83 | 0.17 | 0.088 | ( 0.806) | 0.023 | 0.065 |
| 35 | 2.92 | 0.17 | 0.088 | ( 0.803) | 0.023 | 0.065 |
| 36 | 3.00 | 0.17 | 0.088 | ( 0.799) | 0.023 | 0.065 |
| 37 | 3.08 | 0.17 | 0.088 | ( 0.796) | 0.023 | 0.065 |
| 38 | 3.17 | 0.17 | 0.088 | ( 0.793) | 0.023 | 0.065 |
| 39 | 3.25 | 0.17 | 0.088 | ( 0.789) | 0.023 | 0.065 |
| 40 | 3.33 | 0.17 | 0.088 | ( 0.786) | 0.023 | 0.065 |
| 41 | 3.42 | 0.17 | 0.088 | ( 0.783) | 0.023 | 0.065 |
| 42 | 3.50 | 0.17 | 0.088 | ( 0.779) | 0.023 | 0.065 |
| 43 | 3.58 | 0.17 | 0.088 | ( 0.776) | 0.023 | 0.065 |
| 44 | 3.67 | 0.17 | 0.088 | ( 0.773) | 0.023 | 0.065 |
| 45 | 3.75 | 0.17 | 0.088 | ( 0.770) | 0.023 | 0.065 |
| 46 | 3.83 | 0.20 | 0.106 | ( 0.766) | 0.027 | 0.079 |
| 47 | 3.92 | 0.20 | 0.106 | ( 0.763) | 0.027 | 0.079 |
| 48 | 4.00 | 0.20 | 0.106 | ( 0.760) | 0.027 | 0.079 |
| 49 | 4.08 | 0.20 | 0.106 | ( 0.757) | 0.027 | 0.079 |
| 50 | 4.17 | 0.20 | 0.106 | ( 0.754) | 0.027 | 0.079 |
| 51 | 4.25 | 0.20 | 0.106 | ( 0.750) | 0.027 | 0.079 |
| 52 | 4.33 | 0.23 | 0.124 | ( 0.747) | 0.032 | 0.092 |
| 53 | 4.42 | 0.23 | 0.124 | ( 0.744) | 0.032 | 0.092 |
| 54 | 4.50 | 0.23 | 0.124 | ( 0.741) | 0.032 | 0.092 |
| 55 | 4.58 | 0.23 | 0.124 | ( 0.738) | 0.032 | 0.092 |
| 56 | 4.67 | 0.23 | 0.124 | ( 0.734) | 0.032 | 0.092 |
| 57 | 4.75 | 0.23 | 0.124 | ( 0.731) | 0.032 | 0.092 |
| 58 | 4.83 | 0.27 | 0.141 | ( 0.728) | 0.037 | 0.105 |
| 59 | 4.92 | 0.27 | 0.141 | ( 0.725) | 0.037 | 0.105 |
| 60 | 5.00 | 0.27 | 0.141 | ( 0.722) | 0.037 | 0.105 |
| 61 | 5.08 | 0.20 | 0.106 | ( 0.719) | 0.027 | 0.079 |
| 62 | 5.17 | 0.20 | 0.106 | ( 0.716) | 0.027 | 0.079 |
| 63 | 5.25 | 0.20 | 0.106 | ( 0.712) | 0.027 | 0.079 |
| 64 | 5.33 | 0.23 | 0.124 | ( 0.709) | 0.032 | 0.092 |
| 65 | 5.42 | 0.23 | 0.124 | ( 0.706) | 0.032 | 0.092 |
| 66 | 5.50 | 0.23 | 0.124 | ( 0.703) | 0.032 | 0.092 |
| 67 | 5.58 | 0.27 | 0.141 | ( 0.700) | 0.037 | 0.105 |
| 68 | 5.67 | 0.27 | 0.141 | ( 0.697) | 0.037 | 0.105 |
| 69 | 5.75 | 0.27 | 0.141 | ( 0.694) | 0.037 | 0.105 |
| 70 | 5.83 | 0.27 | 0.141 | ( 0.691) | 0.037 | 0.105 |
| 71 | 5.92 | 0.27 | 0.141 | ( 0.688) | 0.037 | 0.105 |
| 72 | 6.00 | 0.27 | 0.141 | ( 0.685) | 0.037 | 0.105 |
| 73 | 6.08 | 0.30 | 0.159 | ( 0.682) | 0.041 | 0.118 |
| 74 | 6.17 | 0.30 | 0.159 | ( 0.679) | 0.041 | 0.118 |
| 75 | 6.25 | 0.30 | 0.159 | ( 0.676) | 0.041 | 0.118 |
| 76 | 6.33 | 0.30 | 0.159 | ( 0.673) | 0.041 | 0.118 |
| 77 | 6.42 | 0.30 | 0.159 | ( 0.670) | 0.041 | 0.118 |
| 78 | 6.50 | 0.30 | 0.159 | ( 0.667) | 0.041 | 0.118 |
| 79 | 6.58 | 0.33 | 0.177 | ( 0.664) | 0.046 | 0.131 |
| 80 | 6.67 | 0.33 | 0.177 | ( 0.661) | 0.046 | 0.131 |
| 81 | 6.75 | 0.33 | 0.177 | ( 0.658) | 0.046 | 0.131 |
| 82 | 6.83 | 0.33 | 0.177 | ( 0.655) | 0.046 | 0.131 |
| 83 | 6.92 | 0.33 | 0.177 | ( 0.652) | 0.046 | 0.131 |
| 84 | 7.00 | 0.33 | 0.177 | ( 0.649) | 0.046 | 0.131 |
| 85 | 7.08 | 0.33 | 0.177 | ( 0.646) | 0.046 | 0.131 |
| 86 | 7.17 | 0.33 | 0.177 | ( 0.643) | 0.046 | 0.131 |
| 87 | 7.25 | 0.33 | 0.177 | ( 0.640) | 0.046 | 0.131 |
| 88 | 7.33 | 0.37 | 0.194 | ( 0.637) | 0.050 | 0.144 |
| 89 | 7.42 | 0.37 | 0.194 | ( 0.634) | 0.050 | 0.144 |
| 90 | 7.50 | 0.37 | 0.194 | ( 0.631) | 0.050 | 0.144 |
| 91 | 7.58 | 0.40 | 0.212 | ( 0.628) | 0.055 | 0.157 |
| 92 | 7.67 | 0.40 | 0.212 | ( 0.625) | 0.055 | 0.157 |
| 93 | 7.75 | 0.40 | 0.212 | ( 0.622) | 0.055 | 0.157 |
| 94 | 7.83 | 0.43 | 0.230 | ( 0.620) | 0.060 | 0.170 |
| 95 | 7.92 | 0.43 | 0.230 | ( 0.617) | 0.060 | 0.170 |
| 96 | 8.00 | 0.43 | 0.230 | ( 0.614) | 0.060 | 0.170 |
| 97 | 8.08 | 0.50 | 0.265 | ( 0.611) | 0.069 | 0.196 |
| 98 | 8.17 | 0.50 | 0.265 | ( 0.608) | 0.069 | 0.196 |
| 99 | 8.25 | 0.50 | 0.265 | ( 0.605) | 0.069 | 0.196 |
| 100 | 8.33 | 0.50 | 0.265 | ( 0.603) | 0.069 | 0.196 |
| 101 | 8.42 | 0.50 | 0.265 | ( 0.600) | 0.069 | 0.196 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 102 | 8.50 | 0.50 | 0.265 | ( 0.597) | 0.069 | 0.196 |
| 103 | 8.58 | 0.53 | 0.283 | ( 0.594) | 0.073 | 0.210 |
| 104 | 8.67 | 0.53 | 0.283 | ( 0.591) | 0.073 | 0.210 |
| 105 | 8.75 | 0.53 | 0.283 | ( 0.589) | 0.073 | 0.210 |
| 106 | 8.83 | 0.57 | 0.300 | ( 0.586) | 0.078 | 0.223 |
| 107 | 8.92 | 0.57 | 0.300 | ( 0.583) | 0.078 | 0.223 |
| 108 | 9.00 | 0.57 | 0.300 | ( 0.580) | 0.078 | 0.223 |
| 109 | 9.08 | 0.63 | 0.336 | ( 0.577) | 0.087 | 0.249 |
| 110 | 9.17 | 0.63 | 0.336 | ( 0.575) | 0.087 | 0.249 |
| 111 | 9.25 | 0.63 | 0.336 | ( 0.572) | 0.087 | 0.249 |
| 112 | 9.33 | 0.67 | 0.354 | ( 0.569) | 0.092 | 0.262 |
| 113 | 9.42 | 0.67 | 0.354 | ( 0.567) | 0.092 | 0.262 |
| 114 | 9.50 | 0.67 | 0.354 | ( 0.564) | 0.092 | 0.262 |
| 115 | 9.58 | 0.70 | 0.371 | ( 0.561) | 0.096 | 0.275 |
| 116 | 9.67 | 0.70 | 0.371 | ( 0.558) | 0.096 | 0.275 |
| 117 | 9.75 | 0.70 | 0.371 | ( 0.556) | 0.096 | 0.275 |
| 118 | 9.83 | 0.73 | 0.389 | ( 0.553) | 0.101 | 0.288 |
| 119 | 9.92 | 0.73 | 0.389 | ( 0.550) | 0.101 | 0.288 |
| 120 | 10.00 | 0.73 | 0.389 | ( 0.548) | 0.101 | 0.288 |
| 121 | 10.08 | 0.50 | 0.265 | ( 0.545) | 0.069 | 0.196 |
| 122 | 10.17 | 0.50 | 0.265 | ( 0.542) | 0.069 | 0.196 |
| 123 | 10.25 | 0.50 | 0.265 | ( 0.540) | 0.069 | 0.196 |
| 124 | 10.33 | 0.50 | 0.265 | ( 0.537) | 0.069 | 0.196 |
| 125 | 10.42 | 0.50 | 0.265 | ( 0.535) | 0.069 | 0.196 |
| 126 | 10.50 | 0.50 | 0.265 | ( 0.532) | 0.069 | 0.196 |
| 127 | 10.58 | 0.67 | 0.354 | ( 0.529) | 0.092 | 0.262 |
| 128 | 10.67 | 0.67 | 0.354 | ( 0.527) | 0.092 | 0.262 |
| 129 | 10.75 | 0.67 | 0.354 | ( 0.524) | 0.092 | 0.262 |
| 130 | 10.83 | 0.67 | 0.354 | ( 0.522) | 0.092 | 0.262 |
| 131 | 10.92 | 0.67 | 0.354 | ( 0.519) | 0.092 | 0.262 |
| 132 | 11.00 | 0.67 | 0.354 | ( 0.517) | 0.092 | 0.262 |
| 133 | 11.08 | 0.63 | 0.336 | ( 0.514) | 0.087 | 0.249 |
| 134 | 11.17 | 0.63 | 0.336 | ( 0.511) | 0.087 | 0.249 |
| 135 | 11.25 | 0.63 | 0.336 | ( 0.509) | 0.087 | 0.249 |
| 136 | 11.33 | 0.63 | 0.336 | ( 0.506) | 0.087 | 0.249 |
| 137 | 11.42 | 0.63 | 0.336 | ( 0.504) | 0.087 | 0.249 |
| 138 | 11.50 | 0.63 | 0.336 | ( 0.501) | 0.087 | 0.249 |
| 139 | 11.58 | 0.57 | 0.300 | ( 0.499) | 0.078 | 0.223 |
| 140 | 11.67 | 0.57 | 0.300 | ( 0.496) | 0.078 | 0.223 |
| 141 | 11.75 | 0.57 | 0.300 | ( 0.494) | 0.078 | 0.223 |
| 142 | 11.83 | 0.60 | 0.318 | ( 0.492) | 0.082 | 0.236 |
| 143 | 11.92 | 0.60 | 0.318 | ( 0.489) | 0.082 | 0.236 |
| 144 | 12.00 | 0.60 | 0.318 | ( 0.487) | 0.082 | 0.236 |
| 145 | 12.08 | 0.83 | 0.442 | ( 0.484) | 0.114 | 0.327 |
| 146 | 12.17 | 0.83 | 0.442 | ( 0.482) | 0.114 | 0.327 |
| 147 | 12.25 | 0.83 | 0.442 | ( 0.479) | 0.114 | 0.327 |
| 148 | 12.33 | 0.87 | 0.460 | ( 0.477) | 0.119 | 0.341 |
| 149 | 12.42 | 0.87 | 0.460 | ( 0.475) | 0.119 | 0.341 |
| 150 | 12.50 | 0.87 | 0.460 | ( 0.472) | 0.119 | 0.341 |
| 151 | 12.58 | 0.93 | 0.495 | ( 0.470) | 0.128 | 0.367 |
| 152 | 12.67 | 0.93 | 0.495 | ( 0.467) | 0.128 | 0.367 |
| 153 | 12.75 | 0.93 | 0.495 | ( 0.465) | 0.128 | 0.367 |
| 154 | 12.83 | 0.97 | 0.513 | ( 0.463) | 0.133 | 0.380 |
| 155 | 12.92 | 0.97 | 0.513 | ( 0.460) | 0.133 | 0.380 |
| 156 | 13.00 | 0.97 | 0.513 | ( 0.458) | 0.133 | 0.380 |
| 157 | 13.08 | 1.13 | 0.601 | ( 0.456) | 0.156 | 0.445 |
| 158 | 13.17 | 1.13 | 0.601 | ( 0.453) | 0.156 | 0.445 |
| 159 | 13.25 | 1.13 | 0.601 | ( 0.451) | 0.156 | 0.445 |
| 160 | 13.33 | 1.13 | 0.601 | ( 0.449) | 0.156 | 0.445 |
| 161 | 13.42 | 1.13 | 0.601 | ( 0.447) | 0.156 | 0.445 |
| 162 | 13.50 | 1.13 | 0.601 | ( 0.444) | 0.156 | 0.445 |
| 163 | 13.58 | 0.77 | 0.407 | ( 0.442) | 0.105 | 0.301 |
| 164 | 13.67 | 0.77 | 0.407 | ( 0.440) | 0.105 | 0.301 |
| 165 | 13.75 | 0.77 | 0.407 | ( 0.438) | 0.105 | 0.301 |
| 166 | 13.83 | 0.77 | 0.407 | ( 0.435) | 0.105 | 0.301 |
| 167 | 13.92 | 0.77 | 0.407 | ( 0.433) | 0.105 | 0.301 |
| 168 | 14.00 | 0.77 | 0.407 | ( 0.431) | 0.105 | 0.301 |
| 169 | 14.08 | 0.90 | 0.477 | ( 0.429) | 0.124 | 0.354 |
| 170 | 14.17 | 0.90 | 0.477 | ( 0.426) | 0.124 | 0.354 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 171 | 14.25 | 0.90 | 0.477 | ( | 0.424) | 0.124 | 0.354 |
| 172 | 14.33 | 0.87 | 0.460 | ( | 0.422) | 0.119 | 0.341 |
| 173 | 14.42 | 0.87 | 0.460 | ( | 0.420) | 0.119 | 0.341 |
| 174 | 14.50 | 0.87 | 0.460 | ( | 0.418) | 0.119 | 0.341 |
| 175 | 14.58 | 0.87 | 0.460 | ( | 0.416) | 0.119 | 0.341 |
| 176 | 14.67 | 0.87 | 0.460 | ( | 0.414) | 0.119 | 0.341 |
| 177 | 14.75 | 0.87 | 0.460 | ( | 0.411) | 0.119 | 0.341 |
| 178 | 14.83 | 0.83 | 0.442 | ( | 0.409) | 0.114 | 0.327 |
| 179 | 14.92 | 0.83 | 0.442 | ( | 0.407) | 0.114 | 0.327 |
| 180 | 15.00 | 0.83 | 0.442 | ( | 0.405) | 0.114 | 0.327 |
| 181 | 15.08 | 0.80 | 0.424 | ( | 0.403) | 0.110 | 0.314 |
| 182 | 15.17 | 0.80 | 0.424 | ( | 0.401) | 0.110 | 0.314 |
| 183 | 15.25 | 0.80 | 0.424 | ( | 0.399) | 0.110 | 0.314 |
| 184 | 15.33 | 0.77 | 0.407 | ( | 0.397) | 0.105 | 0.301 |
| 185 | 15.42 | 0.77 | 0.407 | ( | 0.395) | 0.105 | 0.301 |
| 186 | 15.50 | 0.77 | 0.407 | ( | 0.393) | 0.105 | 0.301 |
| 187 | 15.58 | 0.63 | 0.336 | ( | 0.391) | 0.087 | 0.249 |
| 188 | 15.67 | 0.63 | 0.336 | ( | 0.389) | 0.087 | 0.249 |
| 189 | 15.75 | 0.63 | 0.336 | ( | 0.387) | 0.087 | 0.249 |
| 190 | 15.83 | 0.63 | 0.336 | ( | 0.385) | 0.087 | 0.249 |
| 191 | 15.92 | 0.63 | 0.336 | ( | 0.383) | 0.087 | 0.249 |
| 192 | 16.00 | 0.63 | 0.336 | ( | 0.381) | 0.087 | 0.249 |
| 193 | 16.08 | 0.13 | 0.071 | ( | 0.379) | 0.018 | 0.052 |
| 194 | 16.17 | 0.13 | 0.071 | ( | 0.377) | 0.018 | 0.052 |
| 195 | 16.25 | 0.13 | 0.071 | ( | 0.375) | 0.018 | 0.052 |
| 196 | 16.33 | 0.13 | 0.071 | ( | 0.373) | 0.018 | 0.052 |
| 197 | 16.42 | 0.13 | 0.071 | ( | 0.371) | 0.018 | 0.052 |
| 198 | 16.50 | 0.13 | 0.071 | ( | 0.369) | 0.018 | 0.052 |
| 199 | 16.58 | 0.10 | 0.053 | ( | 0.368) | 0.014 | 0.039 |
| 200 | 16.67 | 0.10 | 0.053 | ( | 0.366) | 0.014 | 0.039 |
| 201 | 16.75 | 0.10 | 0.053 | ( | 0.364) | 0.014 | 0.039 |
| 202 | 16.83 | 0.10 | 0.053 | ( | 0.362) | 0.014 | 0.039 |
| 203 | 16.92 | 0.10 | 0.053 | ( | 0.360) | 0.014 | 0.039 |
| 204 | 17.00 | 0.10 | 0.053 | ( | 0.358) | 0.014 | 0.039 |
| 205 | 17.08 | 0.17 | 0.088 | ( | 0.356) | 0.023 | 0.065 |
| 206 | 17.17 | 0.17 | 0.088 | ( | 0.355) | 0.023 | 0.065 |
| 207 | 17.25 | 0.17 | 0.088 | ( | 0.353) | 0.023 | 0.065 |
| 208 | 17.33 | 0.17 | 0.088 | ( | 0.351) | 0.023 | 0.065 |
| 209 | 17.42 | 0.17 | 0.088 | ( | 0.349) | 0.023 | 0.065 |
| 210 | 17.50 | 0.17 | 0.088 | ( | 0.348) | 0.023 | 0.065 |
| 211 | 17.58 | 0.17 | 0.088 | ( | 0.346) | 0.023 | 0.065 |
| 212 | 17.67 | 0.17 | 0.088 | ( | 0.344) | 0.023 | 0.065 |
| 213 | 17.75 | 0.17 | 0.088 | ( | 0.342) | 0.023 | 0.065 |
| 214 | 17.83 | 0.13 | 0.071 | ( | 0.341) | 0.018 | 0.052 |
| 215 | 17.92 | 0.13 | 0.071 | ( | 0.339) | 0.018 | 0.052 |
| 216 | 18.00 | 0.13 | 0.071 | ( | 0.337) | 0.018 | 0.052 |
| 217 | 18.08 | 0.13 | 0.071 | ( | 0.336) | 0.018 | 0.052 |
| 218 | 18.17 | 0.13 | 0.071 | ( | 0.334) | 0.018 | 0.052 |
| 219 | 18.25 | 0.13 | 0.071 | ( | 0.332) | 0.018 | 0.052 |
| 220 | 18.33 | 0.13 | 0.071 | ( | 0.331) | 0.018 | 0.052 |
| 221 | 18.42 | 0.13 | 0.071 | ( | 0.329) | 0.018 | 0.052 |
| 222 | 18.50 | 0.13 | 0.071 | ( | 0.328) | 0.018 | 0.052 |
| 223 | 18.58 | 0.10 | 0.053 | ( | 0.326) | 0.014 | 0.039 |
| 224 | 18.67 | 0.10 | 0.053 | ( | 0.324) | 0.014 | 0.039 |
| 225 | 18.75 | 0.10 | 0.053 | ( | 0.323) | 0.014 | 0.039 |
| 226 | 18.83 | 0.07 | 0.035 | ( | 0.321) | 0.009 | 0.026 |
| 227 | 18.92 | 0.07 | 0.035 | ( | 0.320) | 0.009 | 0.026 |
| 228 | 19.00 | 0.07 | 0.035 | ( | 0.318) | 0.009 | 0.026 |
| 229 | 19.08 | 0.10 | 0.053 | ( | 0.317) | 0.014 | 0.039 |
| 230 | 19.17 | 0.10 | 0.053 | ( | 0.315) | 0.014 | 0.039 |
| 231 | 19.25 | 0.10 | 0.053 | ( | 0.314) | 0.014 | 0.039 |
| 232 | 19.33 | 0.13 | 0.071 | ( | 0.312) | 0.018 | 0.052 |
| 233 | 19.42 | 0.13 | 0.071 | ( | 0.311) | 0.018 | 0.052 |
| 234 | 19.50 | 0.13 | 0.071 | ( | 0.309) | 0.018 | 0.052 |
| 235 | 19.58 | 0.10 | 0.053 | ( | 0.308) | 0.014 | 0.039 |
| 236 | 19.67 | 0.10 | 0.053 | ( | 0.307) | 0.014 | 0.039 |
| 237 | 19.75 | 0.10 | 0.053 | ( | 0.305) | 0.014 | 0.039 |
| 238 | 19.83 | 0.07 | 0.035 | ( | 0.304) | 0.009 | 0.026 |
| 239 | 19.92 | 0.07 | 0.035 | ( | 0.303) | 0.009 | 0.026 |

```
240  20.00     0.07      0.035       (  0.301)       0.009        0.026
241  20.08     0.10      0.053       (  0.300)       0.014        0.039
242  20.17     0.10      0.053       (  0.299)       0.014        0.039
243  20.25     0.10      0.053       (  0.297)       0.014        0.039
244  20.33     0.10      0.053       (  0.296)       0.014        0.039
245  20.42     0.10      0.053       (  0.295)       0.014        0.039
246  20.50     0.10      0.053       (  0.293)       0.014        0.039
247  20.58     0.10      0.053       (  0.292)       0.014        0.039
248  20.67     0.10      0.053       (  0.291)       0.014        0.039
249  20.75     0.10      0.053       (  0.290)       0.014        0.039
250  20.83     0.07      0.035       (  0.289)       0.009        0.026
251  20.92     0.07      0.035       (  0.287)       0.009        0.026
252  21.00     0.07      0.035       (  0.286)       0.009        0.026
253  21.08     0.10      0.053       (  0.285)       0.014        0.039
254  21.17     0.10      0.053       (  0.284)       0.014        0.039
255  21.25     0.10      0.053       (  0.283)       0.014        0.039
256  21.33     0.07      0.035       (  0.282)       0.009        0.026
257  21.42     0.07      0.035       (  0.281)       0.009        0.026
258  21.50     0.07      0.035       (  0.280)       0.009        0.026
259  21.58     0.10      0.053       (  0.279)       0.014        0.039
260  21.67     0.10      0.053       (  0.278)       0.014        0.039
261  21.75     0.10      0.053       (  0.277)       0.014        0.039
262  21.83     0.07      0.035       (  0.276)       0.009        0.026
263  21.92     0.07      0.035       (  0.275)       0.009        0.026
264  22.00     0.07      0.035       (  0.274)       0.009        0.026
265  22.08     0.10      0.053       (  0.273)       0.014        0.039
266  22.17     0.10      0.053       (  0.272)       0.014        0.039
267  22.25     0.10      0.053       (  0.271)       0.014        0.039
268  22.33     0.07      0.035       (  0.270)       0.009        0.026
269  22.42     0.07      0.035       (  0.270)       0.009        0.026
270  22.50     0.07      0.035       (  0.269)       0.009        0.026
271  22.58     0.07      0.035       (  0.268)       0.009        0.026
272  22.67     0.07      0.035       (  0.267)       0.009        0.026
273  22.75     0.07      0.035       (  0.266)       0.009        0.026
274  22.83     0.07      0.035       (  0.266)       0.009        0.026
275  22.92     0.07      0.035       (  0.265)       0.009        0.026
276  23.00     0.07      0.035       (  0.264)       0.009        0.026
277  23.08     0.07      0.035       (  0.264)       0.009        0.026
278  23.17     0.07      0.035       (  0.263)       0.009        0.026
279  23.25     0.07      0.035       (  0.263)       0.009        0.026
280  23.33     0.07      0.035       (  0.262)       0.009        0.026
281  23.42     0.07      0.035       (  0.262)       0.009        0.026
282  23.50     0.07      0.035       (  0.261)       0.009        0.026
283  23.58     0.07      0.035       (  0.261)       0.009        0.026
284  23.67     0.07      0.035       (  0.260)       0.009        0.026
285  23.75     0.07      0.035       (  0.260)       0.009        0.026
286  23.83     0.07      0.035       (  0.260)       0.009        0.026
287  23.92     0.07      0.035       (  0.260)       0.009        0.026
288  24.00     0.07      0.035       (  0.259)       0.009        0.026
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    39.3
       Flood volume = Effective rainfall      3.27(In)
        times area      14.3(Ac.)/[(In)/(Ft.)] =       3.9(Ac.Ft)
       Total soil loss =      1.14(In)
       Total soil loss =     1.361(Ac.Ft)
       Total rainfall =      4.42(In)
       Flood volume =      169615.7 Cubic Feet
       Total soil loss =       59285.4 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      6.408(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           24 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 0+ 5 | 0.0009 | 0.13 | Q | | | |
| 0+10 | 0.0030 | 0.31 | VQ | | | |
| 0+15 | 0.0054 | 0.35 | VQ | | | |
| 0+20 | 0.0084 | 0.43 | VQ | | | |
| 0+25 | 0.0120 | 0.53 | V Q | | | |
| 0+30 | 0.0158 | 0.55 | V Q | | | |
| 0+35 | 0.0197 | 0.56 | V Q | | | |
| 0+40 | 0.0235 | 0.56 | V Q | | | |
| 0+45 | 0.0274 | 0.57 | V Q | | | |
| 0+50 | 0.0318 | 0.63 | V Q | | | |
| 0+55 | 0.0367 | 0.72 | V Q | | | |
| 1+ 0 | 0.0418 | 0.74 | V Q | | | |
| 1+ 5 | 0.0465 | 0.68 | V Q | | | |
| 1+10 | 0.0506 | 0.60 | V Q | | | |
| 1+15 | 0.0546 | 0.58 | V Q | | | |
| 1+20 | 0.0586 | 0.57 | V Q | | | |
| 1+25 | 0.0625 | 0.57 | V Q | | | |
| 1+30 | 0.0664 | 0.57 | V Q | | | |
| 1+35 | 0.0703 | 0.57 | V Q | | | |
| 1+40 | 0.0742 | 0.57 | V Q | | | |
| 1+45 | 0.0780 | 0.57 | V Q | | | |
| 1+50 | 0.0824 | 0.63 | V Q | | | |
| 1+55 | 0.0873 | 0.72 | V Q | | | |
| 2+ 0 | 0.0924 | 0.74 | V Q | | | |
| 2+ 5 | 0.0976 | 0.75 | \|VQ | | | |
| 2+10 | 0.1028 | 0.75 | \|V Q | | | |
| 2+15 | 0.1080 | 0.75 | \|V Q | | | |
| 2+20 | 0.1131 | 0.75 | \|V Q | | | |
| 2+25 | 0.1183 | 0.75 | \|V Q | | | |
| 2+30 | 0.1235 | 0.75 | \|V Q | | | |
| 2+35 | 0.1292 | 0.82 | \|V Q | | | |
| 2+40 | 0.1354 | 0.91 | \|V Q | | | |
| 2+45 | 0.1418 | 0.93 | \|V Q | | | |
| 2+50 | 0.1483 | 0.94 | \|V Q | | | |
| 2+55 | 0.1547 | 0.94 | \|V Q | | | |
| 3+ 0 | 0.1612 | 0.94 | \|V Q | | | |
| 3+ 5 | 0.1677 | 0.94 | \|V Q | | | |
| 3+10 | 0.1742 | 0.94 | \|V Q | | | |
| 3+15 | 0.1807 | 0.94 | \|V Q | | | |
| 3+20 | 0.1872 | 0.94 | \|V Q | | | |
| 3+25 | 0.1937 | 0.94 | \|V Q | | | |
| 3+30 | 0.2002 | 0.94 | \| VQ | | | |
| 3+35 | 0.2067 | 0.94 | \| VQ | | | |
| 3+40 | 0.2131 | 0.94 | \| VQ | | | |
| 3+45 | 0.2196 | 0.94 | \| VQ | | | |
| 3+50 | 0.2266 | 1.01 | \| V Q | | | |
| 3+55 | 0.2341 | 1.10 | \| V Q | | | |
| 4+ 0 | 0.2418 | 1.12 | \| V Q | | | |
| 4+ 5 | 0.2496 | 1.12 | \| V Q | | | |
| 4+10 | 0.2573 | 1.13 | \| V Q | | | |
| 4+15 | 0.2651 | 1.13 | \| V Q | | | |
| 4+20 | 0.2734 | 1.20 | \| V Q | | | |
| 4+25 | 0.2822 | 1.28 | \| V  Q | | | |
| 4+30 | 0.2912 | 1.30 | \| V  Q | | | |
| 4+35 | 0.3002 | 1.31 | \|  V Q | | | |
| 4+40 | 0.3093 | 1.32 | \|  V Q | | | |
| 4+45 | 0.3184 | 1.32 | \|  V Q | | | |
| 4+50 | 0.3279 | 1.39 | \|  V Q | | | |
| 4+55 | 0.3381 | 1.47 | \|  V Q | | | |
| 5+ 0 | 0.3484 | 1.49 | \|  V Q | | | |
| 5+ 5 | 0.3578 | 1.37 | \|  V Q | | | |
| 5+10 | 0.3661 | 1.20 | \|  VQ | | | |
| 5+15 | 0.3740 | 1.16 | \|  VQ | | | |
| 5+20 | 0.3824 | 1.21 | \|  VQ | | | |
| 5+25 | 0.3912 | 1.29 | \|   VQ | | | |
| 5+30 | 0.4002 | 1.30 | \|   VQ | | | |
| 5+35 | 0.4097 | 1.38 | \|   VQ | | | |
| 5+40 | 0.4198 | 1.47 | \|   VQ | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5+45 | 0.4301 | 1.49 | VQ | | | |
| 5+50 | 0.4405 | 1.50 | V Q | | | |
| 5+55 | 0.4508 | 1.51 | V Q | | | |
| 6+ 0 | 0.4612 | 1.51 | V Q | | | |
| 6+ 5 | 0.4721 | 1.57 | V Q | | | |
| 6+10 | 0.4835 | 1.66 | V Q | | | |
| 6+15 | 0.4951 | 1.68 | VQ | | | |
| 6+20 | 0.5067 | 1.69 | VQ | | | |
| 6+25 | 0.5184 | 1.69 | VQ | | | |
| 6+30 | 0.5301 | 1.70 | VQ | | | |
| 6+35 | 0.5422 | 1.76 | V Q | | | |
| 6+40 | 0.5549 | 1.85 | V Q | | | |
| 6+45 | 0.5678 | 1.87 | V Q | | | |
| 6+50 | 0.5808 | 1.88 | V Q | | | |
| 6+55 | 0.5937 | 1.88 | VQ | | | |
| 7+ 0 | 0.6067 | 1.88 | VQ | | | |
| 7+ 5 | 0.6197 | 1.88 | VQ | | | |
| 7+10 | 0.6327 | 1.88 | VQ | | | |
| 7+15 | 0.6456 | 1.88 | VQ | | | |
| 7+20 | 0.6591 | 1.95 | VQ | | | |
| 7+25 | 0.6731 | 2.04 | V Q | | | |
| 7+30 | 0.6873 | 2.06 | VQ | | | |
| 7+35 | 0.7020 | 2.13 | VQ | | | |
| 7+40 | 0.7173 | 2.22 | VQ | | | |
| 7+45 | 0.7328 | 2.25 | VQ | | | |
| 7+50 | 0.7488 | 2.32 | V Q | | | |
| 7+55 | 0.7654 | 2.41 | V Q | | | |
| 8+ 0 | 0.7822 | 2.44 | VQ | | | |
| 8+ 5 | 0.7999 | 2.58 | V Q | | | |
| 8+10 | 0.8189 | 2.76 | V Q | | | |
| 8+15 | 0.8381 | 2.80 | V Q | | | |
| 8+20 | 0.8575 | 2.81 | V Q | | | |
| 8+25 | 0.8770 | 2.82 | V Q | | | |
| 8+30 | 0.8964 | 2.83 | V Q | | | |
| 8+35 | 0.9164 | 2.89 | V Q | | | |
| 8+40 | 0.9369 | 2.98 | V Q | | | |
| 8+45 | 0.9576 | 3.00 | V Q | | | |
| 8+50 | 0.9787 | 3.08 | V Q | | | |
| 8+55 | 1.0005 | 3.17 | V Q | | | |
| 9+ 0 | 1.0225 | 3.19 | V Q | | | |
| 9+ 5 | 1.0454 | 3.33 | V Q | | | |
| 9+10 | 1.0696 | 3.51 | V Q | | | |
| 9+15 | 1.0941 | 3.55 | V Q | | | |
| 9+20 | 1.1191 | 3.63 | V Q | | | |
| 9+25 | 1.1448 | 3.73 | V Q | | | |
| 9+30 | 1.1706 | 3.75 | V Q | | | |
| 9+35 | 1.1970 | 3.83 | V Q | | | |
| 9+40 | 1.2240 | 3.92 | V Q | | | |
| 9+45 | 1.2512 | 3.94 | V Q | | | |
| 9+50 | 1.2788 | 4.02 | V Q | | | |
| 9+55 | 1.3071 | 4.11 | V Q | | | |
| 10+ 0 | 1.3356 | 4.13 | V Q | | | |
| 10+ 5 | 1.3609 | 3.68 | VQ | | | |
| 10+10 | 1.3821 | 3.07 | Q V | | | |
| 10+15 | 1.4023 | 2.93 | Q V | | | |
| 10+20 | 1.4220 | 2.87 | Q V | | | |
| 10+25 | 1.4416 | 2.84 | Q V | | | |
| 10+30 | 1.4610 | 2.83 | Q V | | | |
| 10+35 | 1.4828 | 3.16 | Q V | | | |
| 10+40 | 1.5075 | 3.59 | QV | | | |
| 10+45 | 1.5330 | 3.70 | QV | | | |
| 10+50 | 1.5587 | 3.74 | Q V | | | |
| 10+55 | 1.5846 | 3.76 | QV | | | |
| 11+ 0 | 1.6106 | 3.77 | QV | | | |
| 11+ 5 | 1.6361 | 3.70 | Q V | | | |
| 11+10 | 1.6610 | 3.62 | Q V | | | |
| 11+15 | 1.6858 | 3.60 | Q V | | | |
| 11+20 | 1.7105 | 3.59 | Q V | | | |
| 11+25 | 1.7351 | 3.58 | Q V | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11+30 | 1.7598 | 3.58 | \| | \| Q V \| | \| | \| |
| 11+35 | 1.7836 | 3.45 | \| | \| Q V \| | \| | \| |
| 11+40 | 1.8061 | 3.27 | \| | \| Q V \| | \| | \| |
| 11+45 | 1.8284 | 3.23 | \| | \|Q V \| | \| | \| |
| 11+50 | 1.8510 | 3.28 | \| | \| Q V\| | \| | \| |
| 11+55 | 1.8741 | 3.36 | \| | \| Q V\| | \| | \| |
| 12+ 0 | 1.8974 | 3.38 | \| | \| Q V\| | \| | \| |
| 12+ 5 | 1.9239 | 3.85 | \| | \| Q V\| | \| | \| |
| 12+10 | 1.9546 | 4.46 | \| | \| Q V | \| | \| |
| 12+15 | 1.9864 | 4.61 | \| | \| Q V | \| | \| |
| 12+20 | 2.0190 | 4.74 | \| | \| Q V | \| | \| |
| 12+25 | 2.0524 | 4.85 | \| | \| Q\|V | \| | \| |
| 12+30 | 2.0860 | 4.89 | \| | \| Q\|V | \| | \| |
| 12+35 | 2.1206 | 5.03 | \| | \| QV | \| | \| |
| 12+40 | 2.1565 | 5.21 | \| | \| Q V | \| | \| |
| 12+45 | 2.1926 | 5.25 | \| | \| Q V | \| | \| |
| 12+50 | 2.2293 | 5.33 | \| | \| \|QV | \| | \| |
| 12+55 | 2.2667 | 5.43 | \| | \| \|Q V | \| | \| |
| 13+ 0 | 2.3043 | 5.45 | \| | \| \|Q V | \| | \| |
| 13+ 5 | 2.3441 | 5.79 | \| | \| \| QV | \| | \| |
| 13+10 | 2.3870 | 6.23 | \| | \| \| Q | \| | \| |
| 13+15 | 2.4307 | 6.33 | \| | \| \| VQ | \| | \| |
| 13+20 | 2.4746 | 6.38 | \| | \| \| Q | \| | \| |
| 13+25 | 2.5187 | 6.40 | \| | \| \| Q | \| | \| |
| 13+30 | 2.5628 | 6.41 | \| | \| \| QV | \| | \| |
| 13+35 | 2.6019 | 5.68 | \| | \| \| Q V | \| | \| |
| 13+40 | 2.6344 | 4.72 | \| | \| Q \| V | \| | \| |
| 13+45 | 2.6654 | 4.50 | \| | \| Q \| V | \| | \| |
| 13+50 | 2.6957 | 4.40 | \| | \| Q \| V | \| | \| |
| 13+55 | 2.7257 | 4.35 | \| | \| Q \| V | \| | \| |
| 14+ 0 | 2.7556 | 4.33 | \| | \| Q \| V | \| | \| |
| 14+ 5 | 2.7872 | 4.60 | \| | \| Q \| V | \| | \| |
| 14+10 | 2.8213 | 4.95 | \| | \| Q\| V | \| | \| |
| 14+15 | 2.8559 | 5.03 | \| | \| Q V\| | \| | \| |
| 14+20 | 2.8904 | 5.00 | \| | \| Q\| V\| | \| | \| |
| 14+25 | 2.9243 | 4.93 | \| | \| Q\| V | \| | \| |
| 14+30 | 2.9582 | 4.91 | \| | \| Q\| V | \| | \| |
| 14+35 | 2.9919 | 4.91 | \| | \| Q\| V | \| | \| |
| 14+40 | 3.0257 | 4.90 | \| | \| Q\| \|V | \| | \| |
| 14+45 | 3.0594 | 4.90 | \| | \| Q\| \|V | \| | \| |
| 14+50 | 3.0927 | 4.83 | \| | \| Q\| \|V | \| | \| |
| 14+55 | 3.1254 | 4.75 | \| | \| Q \| \| V | \| | \| |
| 15+ 0 | 3.1580 | 4.73 | \| | \| Q \| \| V | \| | \| |
| 15+ 5 | 3.1900 | 4.65 | \| | \| Q \| \| V | \| | \| |
| 15+10 | 3.2214 | 4.56 | \| | \| Q \| \| V | \| | \| |
| 15+15 | 3.2527 | 4.54 | \| | \| Q \| \| V | \| | \| |
| 15+20 | 3.2834 | 4.46 | \| | \| Q \| \| V | \| | \| |
| 15+25 | 3.3135 | 4.37 | \| | \| Q \| \| V | \| | \| |
| 15+30 | 3.3435 | 4.35 | \| | \| Q \| \| V | \| | \| |
| 15+35 | 3.3716 | 4.08 | \| | \| Q \| \| V | \| | \| |
| 15+40 | 3.3972 | 3.72 | \| | \| Q \| \| V | \| | \| |
| 15+45 | 3.4223 | 3.64 | \| | \| Q \| \| V | \| | \| |
| 15+50 | 3.4471 | 3.60 | \| | \| Q \| \| V | \| | \| |
| 15+55 | 3.4718 | 3.59 | \| | \| Q \| \| V | \| | \| |
| 16+ 0 | 3.4965 | 3.58 | \| | \| Q \| \| V | \| | \| |
| 16+ 5 | 3.5143 | 2.59 | \| | Q \| \| V | \| | \| |
| 16+10 | 3.5231 | 1.28 | \| | Q \| \| V | \| | \| |
| 16+15 | 3.5298 | 0.98 | \| Q | \| \| V | \| | \| |
| 16+20 | 3.5357 | 0.84 | \| Q | \| \| V | \| | \| |
| 16+25 | 3.5410 | 0.78 | \| Q | \| \| V | \| | \| |
| 16+30 | 3.5462 | 0.75 | \| Q | \| \| V | \| | \| |
| 16+35 | 3.5510 | 0.69 | \|Q | \| \| V | \| | \| |
| 16+40 | 3.5551 | 0.60 | \|Q | \| \| V | \| | \| |
| 16+45 | 3.5591 | 0.58 | \|Q | \| \| V | \| | \| |
| 16+50 | 3.5630 | 0.57 | \|Q | \| \| V | \| | \| |
| 16+55 | 3.5669 | 0.57 | \|Q | \| \| V | \| | \| |
| 17+ 0 | 3.5708 | 0.57 | \|Q | \| \| V | \| | \| |
| 17+ 5 | 3.5756 | 0.70 | \|Q | \| \| V | \| | \| |
| 17+10 | 3.5816 | 0.87 | \| Q | \| \| V | \| | \| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+15 | 3.5879 | 0.91 | \| Q | \| | \| | \| | V \| |
| 17+20 | 3.5943 | 0.93 | \| Q | \| | \| | \| | V \| |
| 17+25 | 3.6008 | 0.94 | \| Q | \| | \| | \| | V \| |
| 17+30 | 3.6073 | 0.94 | \| Q | \| | \| | \| | V \| |
| 17+35 | 3.6138 | 0.94 | \| Q | \| | \| | \| | V \| |
| 17+40 | 3.6203 | 0.94 | \| Q | \| | \| | \| | V \| |
| 17+45 | 3.6267 | 0.94 | \| Q | \| | \| | \| | V \| |
| 17+50 | 3.6328 | 0.88 | \| Q | \| | \| | \| | V \| |
| 17+55 | 3.6382 | 0.79 | \| Q | \| | \| | \| | V \| |
| 18+ 0 | 3.6435 | 0.77 | \| Q | \| | \| | \| | V \| |
| 18+ 5 | 3.6487 | 0.76 | \| Q | \| | \| | \| | V \| |
| 18+10 | 3.6539 | 0.76 | \| Q | \| | \| | \| | V \| |
| 18+15 | 3.6591 | 0.75 | \| Q | \| | \| | \| | V \| |
| 18+20 | 3.6643 | 0.75 | \| Q | \| | \| | \| | V \| |
| 18+25 | 3.6695 | 0.75 | \| Q | \| | \| | \| | V \| |
| 18+30 | 3.6747 | 0.75 | \| Q | \| | \| | \| | V \| |
| 18+35 | 3.6795 | 0.69 | \| Q | \| | \| | \| | V \| |
| 18+40 | 3.6836 | 0.60 | \| Q | \| | \| | \| | V \| |
| 18+45 | 3.6876 | 0.58 | \| Q | \| | \| | \| | V \| |
| 18+50 | 3.6911 | 0.51 | \| Q | \| | \| | \| | V \| |
| 18+55 | 3.6939 | 0.41 | \|Q | \| | \| | \| | V \| |
| 19+ 0 | 3.6966 | 0.39 | \|Q | \| | \| | \| | V \| |
| 19+ 5 | 3.6997 | 0.45 | \|Q | \| | \| | \| | V \| |
| 19+10 | 3.7034 | 0.53 | \| Q | \| | \| | \| | V \| |
| 19+15 | 3.7072 | 0.55 | \| Q | \| | \| | \| | V \| |
| 19+20 | 3.7115 | 0.63 | \| Q | \| | \| | \| | V \| |
| 19+25 | 3.7164 | 0.72 | \| Q | \| | \| | \| | V \| |
| 19+30 | 3.7215 | 0.74 | \| Q | \| | \| | \| | V \| |
| 19+35 | 3.7262 | 0.68 | \| Q | \| | \| | \| | V \| |
| 19+40 | 3.7303 | 0.60 | \| Q | \| | \| | \| | V \| |
| 19+45 | 3.7343 | 0.58 | \| Q | \| | \| | \| | V \| |
| 19+50 | 3.7378 | 0.51 | \| Q | \| | \| | \| | V \| |
| 19+55 | 3.7406 | 0.41 | \|Q | \| | \| | \| | V \| |
| 20+ 0 | 3.7433 | 0.39 | \|Q | \| | \| | \| | V \| |
| 20+ 5 | 3.7464 | 0.45 | \|Q | \| | \| | \| | V \| |
| 20+10 | 3.7501 | 0.53 | \| Q | \| | \| | \| | V \| |
| 20+15 | 3.7539 | 0.55 | \| Q | \| | \| | \| | V \| |
| 20+20 | 3.7577 | 0.56 | \| Q | \| | \| | \| | V \| |
| 20+25 | 3.7616 | 0.56 | \| Q | \| | \| | \| | V \| |
| 20+30 | 3.7655 | 0.57 | \| Q | \| | \| | \| | V \| |
| 20+35 | 3.7694 | 0.57 | \| Q | \| | \| | \| | V \| |
| 20+40 | 3.7733 | 0.57 | \| Q | \| | \| | \| | V \| |
| 20+45 | 3.7772 | 0.57 | \| Q | \| | \| | \| | V \| |
| 20+50 | 3.7806 | 0.50 | \|Q | \| | \| | \| | V \| |
| 20+55 | 3.7835 | 0.41 | \|Q | \| | \| | \| | V \| |
| 21+ 0 | 3.7862 | 0.39 | \|Q | \| | \| | \| | V \| |
| 21+ 5 | 3.7893 | 0.45 | \|Q | \| | \| | \| | V \| |
| 21+10 | 3.7929 | 0.53 | \| Q | \| | \| | \| | V \| |
| 21+15 | 3.7967 | 0.55 | \| Q | \| | \| | \| | V\| |
| 21+20 | 3.8001 | 0.49 | \|Q | \| | \| | \| | V\| |
| 21+25 | 3.8029 | 0.41 | \|Q | \| | \| | \| | V\| |
| 21+30 | 3.8056 | 0.39 | \|Q | \| | \| | \| | V\| |
| 21+35 | 3.8087 | 0.45 | \|Q | \| | \| | \| | V\| |
| 21+40 | 3.8124 | 0.53 | \| Q | \| | \| | \| | V\| |
| 21+45 | 3.8162 | 0.55 | \| Q | \| | \| | \| | V\| |
| 21+50 | 3.8196 | 0.49 | \|Q | \| | \| | \| | V\| |
| 21+55 | 3.8224 | 0.41 | \|Q | \| | \| | \| | V\| |
| 22+ 0 | 3.8251 | 0.39 | \|Q | \| | \| | \| | V\| |
| 22+ 5 | 3.8282 | 0.45 | \|Q | \| | \| | \| | V\| |
| 22+10 | 3.8319 | 0.53 | \| Q | \| | \| | \| | V\| |
| 22+15 | 3.8357 | 0.55 | \| Q | \| | \| | \| | V\| |
| 22+20 | 3.8391 | 0.49 | \|Q | \| | \| | \| | V\| |
| 22+25 | 3.8419 | 0.41 | \|Q | \| | \| | \| | V\| |
| 22+30 | 3.8446 | 0.39 | \|Q | \| | \| | \| | V\| |
| 22+35 | 3.8472 | 0.38 | \|Q | \| | \| | \| | V\| |
| 22+40 | 3.8498 | 0.38 | \|Q | \| | \| | \| | V\| |
| 22+45 | 3.8524 | 0.38 | \|Q | \| | \| | \| | V\| |
| 22+50 | 3.8550 | 0.38 | \|Q | \| | \| | \| | V\| |
| 22+55 | 3.8576 | 0.38 | \|Q | \| | \| | \| | V\| |

```
   23+ 0       3.8602      0.38  |Q        |         |         |        V|
   23+ 5       3.8628      0.38  |Q        |         |         |        V|
   23+10       3.8654      0.38  |Q        |         |         |        V|
   23+15       3.8680      0.38  |Q        |         |         |        V|
   23+20       3.8706      0.38  |Q        |         |         |        V|
   23+25       3.8732      0.38  |Q        |         |         |        V|
   23+30       3.8758      0.38  |Q        |         |         |        V|
   23+35       3.8784      0.38  |Q        |         |         |        V|
   23+40       3.8810      0.38  |Q        |         |         |        V|
   23+45       3.8836      0.38  |Q        |         |         |        V|
   23+50       3.8862      0.38  |Q        |         |         |        V|
   23+55       3.8888      0.38  |Q        |         |         |        V|
   24+ 0       3.8914      0.38  |Q        |         |         |        V|
   24+ 5       3.8930      0.25  Q         |         |         |        V|
   24+10       3.8935      0.07  Q         |         |         |        V|
   24+15       3.8937      0.03  Q         |         |         |        V|
   24+20       3.8938      0.01  Q         |         |         |        V|
   24+25       3.8938      0.00  Q         |         |         |        V|
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
Study date 03/02/23 File: DEVHYD1100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
100-YEAR STORM
BY: JTS DATE: 03-02-23
---
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.56 | 7.99 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.28 | 18.27 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.560(In)
Area Averaged 100-Year Rainfall = 1.280(In)

Point rain (area averaged) = 1.280(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.280(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
          14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 46.6  46.6      0.605     0.159        0.519       1.000      0.519
                                                  Sum (F) =   0.519
 Area averaged mean soil loss (F) (In/Hr) =  0.519
 Minimum soil loss rate ((In/Hr)) =  0.259
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.259
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5300
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %           (CFS)
 ------------------------------------------------------------------
     1   0.083        157.487         34.939             5.025
     2   0.167        314.973         46.456             6.681
     3   0.250        472.460         10.764             1.548
     4   0.333        629.946          4.657             0.670
     5   0.417        787.433          2.267             0.326
     6   0.500        944.919          0.918             0.132
                                 Sum = 100.000   Sum=     14.381
-----------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     3.40      0.522       (  0.519)      0.135        0.387
    2   0.17     4.70      0.722       (  0.519)      0.187        0.535
    3   0.25     4.70      0.722       (  0.519)      0.187        0.535
    4   0.33     5.10      0.783       (  0.519)      0.203        0.580
    5   0.42     5.80      0.891       (  0.519)      0.231        0.660
    6   0.50     5.90      0.906       (  0.519)      0.235        0.671
    7   0.58     7.10      1.090       (  0.519)      0.282        0.808
    8   0.67     8.70      1.336       (  0.519)      0.346        0.990
    9   0.75    13.20      2.027          0.519    (  0.525)        1.509
   10   0.83    29.70      4.561          0.519    (  1.181)        4.043
   11   0.92     7.70      1.183       (  0.519)      0.306        0.876
   12   1.00     4.00      0.614       (  0.519)      0.159        0.455
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    12.0
       Flood volume = Effective rainfall      1.00(In)
        times area      14.3(Ac.)/[(In)/(Ft.)] =       1.2(Ac.Ft)
       Total soil loss =      0.28(In)
       Total soil loss =     0.328(Ac.Ft)
       Total rainfall =      1.28(In)
       Flood volume =       52013.1 Cubic Feet
       Total soil loss =       14282.5 Cubic Feet
       ------------------------------------------------------------------
        Peak flow rate of this hydrograph =     34.780(CFS)
       ------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          1 - H O U R    S T O R M
                     R u n o f f     H y d r o g r a p h
       ------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))
```

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 10.0 | 20.0 | 30.0 | 40.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0134 | 1.95 | VQ | | | | |
| 0+10 | 0.0497 | 5.28 | V Q | | | | |
| 0+15 | 0.0970 | 6.86 | V Q | | | | |
| 0+20 | 0.1492 | 7.58 | V Q | | | | |
| 0+25 | 0.2078 | 8.51 | V Q | | | | |
| 0+30 | 0.2717 | 9.27 | Q | | | | |
| 0+35 | 0.3420 | 10.21 | QV | | | | |
| 0+40 | 0.4254 | 12.12 | Q V | | | | |
| 0+45 | 0.5370 | 16.20 | QV | | | | |
| 0+50 | 0.7628 | 32.79 | V | | | Q | |
| 0+55 | 1.0023 | 34.78 | | | | VQ | |
| 1+ 0 | 1.1115 | 15.85 | Q | | | V | |
| 1+ 5 | 1.1647 | 7.73 | Q | | | | V |
| 1+10 | 1.1841 | 2.81 | Q | | | | V |
| 1+15 | 1.1918 | 1.12 | Q | | | | V |
| 1+20 | 1.1936 | 0.26 | Q | | | | V |
| 1+25 | 1.1941 | 0.06 | Q | | | | V |

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: DEVHYD3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
100-YEAR STORM
BY: JTS DATE: 03-02-23
---
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 0.96 | 13.70 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.23 | 31.82 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.960(In)
Area Averaged 100-Year Rainfall = 2.230(In)

Point rain (area averaged) = 2.230(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.230(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
   14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  46.6      0.605     0.159        0.519       1.000      0.519
                                                 Sum (F) =   0.519
Area averaged mean soil loss (F) (In/Hr) =  0.519
Minimum soil loss rate ((In/Hr)) =  0.259
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     1.30      0.348       (  0.519)       0.090        0.258
    2   0.17     1.30      0.348       (  0.519)       0.090        0.258
    3   0.25     1.10      0.294       (  0.519)       0.076        0.218
    4   0.33     1.50      0.401       (  0.519)       0.104        0.297
    5   0.42     1.50      0.401       (  0.519)       0.104        0.297
    6   0.50     1.80      0.482       (  0.519)       0.125        0.357
    7   0.58     1.50      0.401       (  0.519)       0.104        0.297
    8   0.67     1.80      0.482       (  0.519)       0.125        0.357
    9   0.75     1.80      0.482       (  0.519)       0.125        0.357
   10   0.83     1.50      0.401       (  0.519)       0.104        0.297
   11   0.92     1.60      0.428       (  0.519)       0.111        0.317
   12   1.00     1.80      0.482       (  0.519)       0.125        0.357
   13   1.08     2.20      0.589       (  0.519)       0.152        0.436
   14   1.17     2.20      0.589       (  0.519)       0.152        0.436
   15   1.25     2.20      0.589       (  0.519)       0.152        0.436
   16   1.33     2.00      0.535       (  0.519)       0.139        0.397
   17   1.42     2.60      0.696       (  0.519)       0.180        0.516
   18   1.50     2.70      0.722       (  0.519)       0.187        0.535
   19   1.58     2.40      0.642       (  0.519)       0.166        0.476
   20   1.67     2.70      0.722       (  0.519)       0.187        0.535
   21   1.75     3.30      0.883       (  0.519)       0.229        0.654
   22   1.83     3.10      0.830       (  0.519)       0.215        0.615
   23   1.92     2.90      0.776       (  0.519)       0.201        0.575
   24   2.00     3.00      0.803       (  0.519)       0.208        0.595
   25   2.08     3.10      0.830       (  0.519)       0.215        0.615
   26   2.17     4.20      1.124       (  0.519)       0.291        0.833
   27   2.25     5.00      1.338       (  0.519)       0.347        0.991
   28   2.33     3.50      0.937       (  0.519)       0.243        0.694
   29   2.42     6.80      1.820       (  0.519)       0.471        1.348
   30   2.50     7.30      1.953       (  0.519)       0.506        1.447
   31   2.58     8.20      2.194          0.519    (  0.568)        1.675
   32   2.67     5.90      1.579       (  0.519)       0.409        1.170
```

```
33   2.75     2.00      0.535       (  0.519)       0.139        0.397
34   2.83     1.80      0.482       (  0.519)       0.125        0.357
35   2.92     1.80      0.482       (  0.519)       0.125        0.357
36   3.00     0.60      0.161       (  0.519)       0.042        0.119
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    19.9
      Flood volume = Effective rainfall      1.66(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       2.0(Ac.Ft)
      Total soil loss =      0.57(In)
      Total soil loss =     0.682(Ac.Ft)
      Total rainfall =      2.23(In)
      Flood volume =       85804.8 Cubic Feet
      Total soil loss =       29702.2 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     21.085(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        7.5      15.0      22.5      30.0
-------------------------------------------------------------------------
  0+ 5       0.0089      1.30  VQ        |         |         |         |
  0+10       0.0297      3.02  V   Q     |         |         |         |
  0+15       0.0519      3.22  |V  Q     |         |         |         |
  0+20       0.0762      3.53  |V  Q     |         |         |         |
  0+25       0.1042      4.08  | V  Q    |         |         |         |
  0+30       0.1353      4.51  | V   Q   |         |         |         |
  0+35       0.1673      4.65  |  V  Q   |         |         |         |
  0+40       0.1994      4.66  |   V Q   |         |         |         |
  0+45       0.2339      5.02  |   V Q   |         |         |         |
  0+50       0.2669      4.79  |    VQ   |         |         |         |
  0+55       0.2980      4.52  |     Q   |         |         |         |
  1+ 0       0.3309      4.77  |     Q   |         |         |         |
  1+ 5       0.3683      5.43  |      Q  |         |         |         |
  1+10       0.4097      6.02  |       Q |         |         |         |
  1+15       0.4522      6.17  |       QV|         |         |         |
  1+20       0.4938      6.04  |       Q V         |         |         |
  1+25       0.5379      6.40  |       Q V         |         |         |
  1+30       0.5877      7.24  |        Q|V        |         |         |
  1+35       0.6376      7.23  |        Q| V       |         |         |
  1+40       0.6874      7.23  |        Q|  V      |         |         |
  1+45       0.7438      8.18  |         Q    V    |         |         |
  1+50       0.8047      8.85  |         |Q    V   |         |         |
  1+55       0.8640      8.60  |         |Q     V  |         |         |
  2+ 0       0.9222      8.46  |         |Q      V |         |         |
  2+ 5       0.9818      8.65  |         |Q       V|         |         |
  2+10       1.0499      9.89  |         |  Q      |V        |         |
  2+15       1.1337     12.17  |         |     Q   |  V      |         |
  2+20       1.2170     12.09  |         |     Q   |   V     |         |
  2+25       1.3120     13.79  |         |       Q |     V   |         |
  2+30       1.4386     18.38  |         |         |   Q    V|         |
  2+35       1.5838     21.09  |         |         |       Q | V       |
  2+40       1.7255     20.58  |         |         |      Q  |    V    |
  2+45       1.8213     13.91  |         |       Q |         |     V   |
  2+50       1.8766      8.03  |         Q         |         |       V |
  2+55       1.9201      6.32  |       Q |         |         |       V |
  3+ 0       1.9505      4.41  |    Q    |         |         |        V|
  3+ 5       1.9634      1.87  | Q       |         |         |        V|
  3+10       1.9674      0.59  Q         |         |         |        V|
  3+15       1.9691      0.24  Q         |         |         |        V|
  3+20       1.9697      0.09  Q         |         |         |        V|
  3+25       1.9698      0.02  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t  H y d r o g r a p h  A n a l y s i s

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Study date 03/02/23 File: DEVHYD6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---------------------------------------------------------------------------
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---------------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
100-YEAR STORM
BY: JTS DATE: 03-02-23
---------------------------------------------------------------------------
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 1.42 | 20.26 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 3.15 | 44.95 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.420(In)
Area Averaged 100-Year Rainfall = 3.150(In)

Point rain (area averaged) = 3.150(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.150(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
   14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  46.6      0.605     0.159        0.519       1.000      0.519
                                                 Sum (F) =   0.519
Area averaged mean soil loss (F) (In/Hr) =  0.519
Minimum soil loss rate ((In/Hr)) =  0.259
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     0.50      0.189       (  0.519)       0.049        0.140
    2   0.17     0.60      0.227       (  0.519)       0.059        0.168
    3   0.25     0.60      0.227       (  0.519)       0.059        0.168
    4   0.33     0.60      0.227       (  0.519)       0.059        0.168
    5   0.42     0.60      0.227       (  0.519)       0.059        0.168
    6   0.50     0.70      0.265       (  0.519)       0.069        0.196
    7   0.58     0.70      0.265       (  0.519)       0.069        0.196
    8   0.67     0.70      0.265       (  0.519)       0.069        0.196
    9   0.75     0.70      0.265       (  0.519)       0.069        0.196
   10   0.83     0.70      0.265       (  0.519)       0.069        0.196
   11   0.92     0.70      0.265       (  0.519)       0.069        0.196
   12   1.00     0.80      0.302       (  0.519)       0.078        0.224
   13   1.08     0.80      0.302       (  0.519)       0.078        0.224
   14   1.17     0.80      0.302       (  0.519)       0.078        0.224
   15   1.25     0.80      0.302       (  0.519)       0.078        0.224
   16   1.33     0.80      0.302       (  0.519)       0.078        0.224
   17   1.42     0.80      0.302       (  0.519)       0.078        0.224
   18   1.50     0.80      0.302       (  0.519)       0.078        0.224
   19   1.58     0.80      0.302       (  0.519)       0.078        0.224
   20   1.67     0.80      0.302       (  0.519)       0.078        0.224
   21   1.75     0.80      0.302       (  0.519)       0.078        0.224
   22   1.83     0.80      0.302       (  0.519)       0.078        0.224
   23   1.92     0.80      0.302       (  0.519)       0.078        0.224
   24   2.00     0.90      0.340       (  0.519)       0.088        0.252
   25   2.08     0.80      0.302       (  0.519)       0.078        0.224
   26   2.17     0.90      0.340       (  0.519)       0.088        0.252
   27   2.25     0.90      0.340       (  0.519)       0.088        0.252
   28   2.33     0.90      0.340       (  0.519)       0.088        0.252
   29   2.42     0.90      0.340       (  0.519)       0.088        0.252
   30   2.50     0.90      0.340       (  0.519)       0.088        0.252
   31   2.58     0.90      0.340       (  0.519)       0.088        0.252
   32   2.67     0.90      0.340       (  0.519)       0.088        0.252
```

```
33   2.75     1.00      0.378       (  0.519)       0.098        0.280
34   2.83     1.00      0.378       (  0.519)       0.098        0.280
35   2.92     1.00      0.378       (  0.519)       0.098        0.280
36   3.00     1.00      0.378       (  0.519)       0.098        0.280
37   3.08     1.00      0.378       (  0.519)       0.098        0.280
38   3.17     1.10      0.416       (  0.519)       0.108        0.308
39   3.25     1.10      0.416       (  0.519)       0.108        0.308
40   3.33     1.10      0.416       (  0.519)       0.108        0.308
41   3.42     1.20      0.454       (  0.519)       0.117        0.336
42   3.50     1.30      0.491       (  0.519)       0.127        0.364
43   3.58     1.40      0.529       (  0.519)       0.137        0.392
44   3.67     1.40      0.529       (  0.519)       0.137        0.392
45   3.75     1.50      0.567       (  0.519)       0.147        0.420
46   3.83     1.50      0.567       (  0.519)       0.147        0.420
47   3.92     1.60      0.605       (  0.519)       0.157        0.448
48   4.00     1.60      0.605       (  0.519)       0.157        0.448
49   4.08     1.70      0.643       (  0.519)       0.166        0.476
50   4.17     1.80      0.680       (  0.519)       0.176        0.504
51   4.25     1.90      0.718       (  0.519)       0.186        0.532
52   4.33     2.00      0.756       (  0.519)       0.196        0.560
53   4.42     2.10      0.794       (  0.519)       0.206        0.588
54   4.50     2.10      0.794       (  0.519)       0.206        0.588
55   4.58     2.20      0.832       (  0.519)       0.215        0.616
56   4.67     2.30      0.869       (  0.519)       0.225        0.644
57   4.75     2.40      0.907       (  0.519)       0.235        0.672
58   4.83     2.40      0.907       (  0.519)       0.235        0.672
59   4.92     2.50      0.945       (  0.519)       0.245        0.700
60   5.00     2.60      0.983       (  0.519)       0.255        0.728
61   5.08     3.10      1.172       (  0.519)       0.303        0.868
62   5.17     3.60      1.361       (  0.519)       0.352        1.008
63   5.25     3.90      1.474       (  0.519)       0.382        1.092
64   5.33     4.20      1.588       (  0.519)       0.411        1.176
65   5.42     4.70      1.777       (  0.519)       0.460        1.316
66   5.50     5.60      2.117          0.519    (  0.548)       1.598
67   5.58     1.90      0.718       (  0.519)       0.186        0.532
68   5.67     0.90      0.340       (  0.519)       0.088        0.252
69   5.75     0.60      0.227       (  0.519)       0.059        0.168
70   5.83     0.50      0.189       (  0.519)       0.049        0.140
71   5.92     0.30      0.113       (  0.519)       0.029        0.084
72   6.00     0.20      0.076       (  0.519)       0.020        0.056
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    28.0
      Flood volume = Effective rainfall      2.34(In)
       times area      14.3(Ac.)/[(In)/(Ft.)] =       2.8(Ac.Ft)
      Total soil loss =      0.81(In)
      Total soil loss =     0.967(Ac.Ft)
      Total rainfall =      3.15(In)
      Flood volume =      121030.7 Cubic Feet
      Total soil loss =       42131.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     19.830(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0048      0.70  VQ        |         |         |         |
  0+10       0.0171      1.78  V  Q      |         |         |         |
  0+15       0.0322      2.19  V   Q     |         |         |         |
  0+20       0.0482      2.32  V   Q     |         |         |         |
  0+25       0.0646      2.39  V   Q     |         |         |         |
  0+30       0.0822      2.56  |V   Q    |         |         |         |
  0+35       0.1011      2.75  |V   Q    |         |         |         |
  0+40       0.1203      2.79  |V   Q    |         |         |         |
```

```
0+45      0.1397     2.81  | V  Q    |         |         |         |
0+50      0.1591     2.82  | V  Q    |         |         |         |
0+55      0.1785     2.82  | V  Q    |         |         |         |
1+ 0      0.1989     2.96  | V  Q    |         |         |         |
1+ 5      0.2206     3.15  |  V  Q   |         |         |         |
1+10      0.2426     3.19  |  V  Q   |         |         |         |
1+15      0.2647     3.21  |  V  Q   |         |         |         |
1+20      0.2869     3.22  |   V Q   |         |         |         |
1+25      0.3091     3.22  |   V Q   |         |         |         |
1+30      0.3313     3.22  |   V Q   |         |         |         |
1+35      0.3535     3.22  |    VQ   |         |         |         |
1+40      0.3757     3.22  |    VQ   |         |         |         |
1+45      0.3979     3.22  |    VQ   |         |         |         |
1+50      0.4201     3.22  |     Q   |         |         |         |
1+55      0.4423     3.22  |     Q   |         |         |         |
2+ 0      0.4655     3.36  |     Q   |         |         |         |
2+ 5      0.4890     3.41  |     QV  |         |         |         |
2+10      0.5124     3.41  |     QV  |         |         |         |
2+15      0.5370     3.57  |      Q  |         |         |         |
2+20      0.5618     3.60  |      QV |         |         |         |
2+25      0.5868     3.62  |      QV |         |         |         |
2+30      0.6117     3.62  |      QV |         |         |         |
2+35      0.6367     3.63  |      Q V|         |         |         |
2+40      0.6617     3.63  |      Q V|         |         |         |
2+45      0.6876     3.77  |      Q V|         |         |         |
2+50      0.7149     3.96  |      Q  V         |         |         |
2+55      0.7424     4.00  |      Q  V         |         |         |
3+ 0      0.7701     4.02  |       Q |V        |         |         |
3+ 5      0.7978     4.03  |       Q |V        |         |         |
3+10      0.8265     4.17  |       Q |V        |         |         |
3+15      0.8565     4.36  |       Q | V       |         |         |
3+20      0.8869     4.40  |       Q | V       |         |         |
3+25      0.9183     4.56  |        Q|  V      |         |         |
3+30      0.9520     4.90  |        Q|  V      |         |         |
3+35      0.9883     5.27  |         Q   V     |         |         |
3+40      1.0264     5.52  |         |Q  V     |         |         |
3+45      1.0659     5.73  |         |Q   V    |         |         |
3+50      1.1069     5.95  |         |Q   V    |         |         |
3+55      1.1492     6.15  |         | Q   V   |         |         |
4+ 0      1.1930     6.36  |         | Q    V  |         |         |
4+ 5      1.2382     6.55  |         |  Q   V  |         |         |
4+10      1.2857     6.90  |         |  Q    V |         |         |
4+15      1.3359     7.28  |         |   Q    V|         |         |
4+20      1.3888     7.68  |         |    Q   V|         |         |
4+25      1.4444     8.08  |         |     Q   V         |         |
4+30      1.5018     8.34  |         |     Q   |V        |         |
4+35      1.5608     8.56  |         |      Q  | V       |         |
4+40      1.6222     8.92  |         |      Q  |  V      |         |
4+45      1.6862     9.30  |         |       Q |   V     |         |
4+50      1.7520     9.55  |         |        Q|    V    |         |
4+55      1.8192     9.76  |         |        Q|     V   |         |
5+ 0      1.8890    10.12  |         |         Q     V  |         |
5+ 5      1.9652    11.07  |         |         | Q     V |         |
5+10      2.0532    12.78  |         |         |    Q   V|         |
5+15      2.1523    14.38  |         |         |       Q V         |
5+20      2.2603    15.69  |         |         |         |QV       |
5+25      2.3790    17.23  |         |         |         |   Q     |
5+30      2.5156    19.83  |         |         |         |     V  Q|
5+35      2.6304    16.67  |         |         |         |  Q   V  |
5+40      2.6904     8.71  |         |      Q  |         |       V |
5+45      2.7249     5.01  |         Q         |         |        V|
5+50      2.7474     3.27  |     Q   |         |         |        V|
5+55      2.7623     2.17  |   Q     |         |         |        V|
6+ 0      2.7715     1.33  | Q       |         |         |        V|
6+ 5      2.7762     0.69  |Q        |         |         |        V|
6+10      2.7777     0.21  Q         |         |         |        V|
6+15      2.7782     0.08  Q         |         |         |        V|
6+20      2.7784     0.03  Q         |         |         |        V|
6+25      2.7785     0.01  Q         |         |         |         V
```

U n i t  H y d r o g r a p h  A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
Study date 03/02/23 File: DEVHYD24100.out

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---------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6320

---------------------------------------------------------------------------
English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

---------------------------------------------------------------------------
225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
DEVELOPED CONDITIONS
100-YEAR STORM
BY: JTS DATE: 03-02-23
---------------------------------------------------------------------------
Drainage Area = 14.27(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.27(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 2019.00(Ft.)
Length along longest watercourse measured to centroid = 766.00(Ft.)
Length along longest watercourse = 0.382 Mi.
Length along longest watercourse measured to centroid = 0.145 Mi.
Difference in elevation = 28.41(Ft.)
Slope along watercourse = 74.2966 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.053 Hr.
Lag time = 3.17 Min.
25% of lag time = 0.79 Min.
40% of lag time = 1.27 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 2.65 | 37.82 |

100 YEAR Area rainfall data:

| Area(Ac.)[1] | Rainfall(In)[2] | Weighting[1*2] |
|---|---|---|
| 14.27 | 6.95 | 99.18 |

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.650(In)
Area Averaged 100-Year Rainfall = 6.950(In)

Point rain (area averaged) = 6.950(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 6.950(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
   14.270           46.60         0.159
 Total Area Entered =     14.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
46.6  46.6      0.605     0.159        0.519       1.000      0.519
                                                 Sum (F) =   0.519
Area averaged mean soil loss (F) (In/Hr) =  0.519
Minimum soil loss rate ((In/Hr)) =  0.259
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.259
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        157.487         34.939              5.025
    2   0.167        314.973         46.456              6.681
    3   0.250        472.460         10.764              1.548
    4   0.333        629.946          4.657              0.670
    5   0.417        787.433          2.267              0.326
    6   0.500        944.919          0.918              0.132
                              Sum = 100.000   Sum=      14.381
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     0.07      0.056       (  0.920)       0.014        0.041
    2   0.17     0.07      0.056       (  0.916)       0.014        0.041
    3   0.25     0.07      0.056       (  0.912)       0.014        0.041
    4   0.33     0.10      0.083       (  0.909)       0.022        0.062
    5   0.42     0.10      0.083       (  0.905)       0.022        0.062
    6   0.50     0.10      0.083       (  0.902)       0.022        0.062
    7   0.58     0.10      0.083       (  0.898)       0.022        0.062
    8   0.67     0.10      0.083       (  0.895)       0.022        0.062
    9   0.75     0.10      0.083       (  0.891)       0.022        0.062
   10   0.83     0.13      0.111       (  0.888)       0.029        0.082
   11   0.92     0.13      0.111       (  0.884)       0.029        0.082
   12   1.00     0.13      0.111       (  0.881)       0.029        0.082
   13   1.08     0.10      0.083       (  0.877)       0.022        0.062
   14   1.17     0.10      0.083       (  0.874)       0.022        0.062
   15   1.25     0.10      0.083       (  0.870)       0.022        0.062
   16   1.33     0.10      0.083       (  0.867)       0.022        0.062
   17   1.42     0.10      0.083       (  0.863)       0.022        0.062
   18   1.50     0.10      0.083       (  0.860)       0.022        0.062
   19   1.58     0.10      0.083       (  0.857)       0.022        0.062
   20   1.67     0.10      0.083       (  0.853)       0.022        0.062
   21   1.75     0.10      0.083       (  0.850)       0.022        0.062
   22   1.83     0.13      0.111       (  0.846)       0.029        0.082
   23   1.92     0.13      0.111       (  0.843)       0.029        0.082
   24   2.00     0.13      0.111       (  0.839)       0.029        0.082
   25   2.08     0.13      0.111       (  0.836)       0.029        0.082
   26   2.17     0.13      0.111       (  0.833)       0.029        0.082
   27   2.25     0.13      0.111       (  0.829)       0.029        0.082
   28   2.33     0.13      0.111       (  0.826)       0.029        0.082
   29   2.42     0.13      0.111       (  0.823)       0.029        0.082
   30   2.50     0.13      0.111       (  0.819)       0.029        0.082
   31   2.58     0.17      0.139       (  0.816)       0.036        0.103
   32   2.67     0.17      0.139       (  0.813)       0.036        0.103
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 33 | 2.75 | 0.17 | 0.139 | ( 0.809) | 0.036 | 0.103 |
| 34 | 2.83 | 0.17 | 0.139 | ( 0.806) | 0.036 | 0.103 |
| 35 | 2.92 | 0.17 | 0.139 | ( 0.803) | 0.036 | 0.103 |
| 36 | 3.00 | 0.17 | 0.139 | ( 0.799) | 0.036 | 0.103 |
| 37 | 3.08 | 0.17 | 0.139 | ( 0.796) | 0.036 | 0.103 |
| 38 | 3.17 | 0.17 | 0.139 | ( 0.793) | 0.036 | 0.103 |
| 39 | 3.25 | 0.17 | 0.139 | ( 0.789) | 0.036 | 0.103 |
| 40 | 3.33 | 0.17 | 0.139 | ( 0.786) | 0.036 | 0.103 |
| 41 | 3.42 | 0.17 | 0.139 | ( 0.783) | 0.036 | 0.103 |
| 42 | 3.50 | 0.17 | 0.139 | ( 0.779) | 0.036 | 0.103 |
| 43 | 3.58 | 0.17 | 0.139 | ( 0.776) | 0.036 | 0.103 |
| 44 | 3.67 | 0.17 | 0.139 | ( 0.773) | 0.036 | 0.103 |
| 45 | 3.75 | 0.17 | 0.139 | ( 0.770) | 0.036 | 0.103 |
| 46 | 3.83 | 0.20 | 0.167 | ( 0.766) | 0.043 | 0.124 |
| 47 | 3.92 | 0.20 | 0.167 | ( 0.763) | 0.043 | 0.124 |
| 48 | 4.00 | 0.20 | 0.167 | ( 0.760) | 0.043 | 0.124 |
| 49 | 4.08 | 0.20 | 0.167 | ( 0.757) | 0.043 | 0.124 |
| 50 | 4.17 | 0.20 | 0.167 | ( 0.754) | 0.043 | 0.124 |
| 51 | 4.25 | 0.20 | 0.167 | ( 0.750) | 0.043 | 0.124 |
| 52 | 4.33 | 0.23 | 0.195 | ( 0.747) | 0.050 | 0.144 |
| 53 | 4.42 | 0.23 | 0.195 | ( 0.744) | 0.050 | 0.144 |
| 54 | 4.50 | 0.23 | 0.195 | ( 0.741) | 0.050 | 0.144 |
| 55 | 4.58 | 0.23 | 0.195 | ( 0.738) | 0.050 | 0.144 |
| 56 | 4.67 | 0.23 | 0.195 | ( 0.734) | 0.050 | 0.144 |
| 57 | 4.75 | 0.23 | 0.195 | ( 0.731) | 0.050 | 0.144 |
| 58 | 4.83 | 0.27 | 0.222 | ( 0.728) | 0.058 | 0.165 |
| 59 | 4.92 | 0.27 | 0.222 | ( 0.725) | 0.058 | 0.165 |
| 60 | 5.00 | 0.27 | 0.222 | ( 0.722) | 0.058 | 0.165 |
| 61 | 5.08 | 0.20 | 0.167 | ( 0.719) | 0.043 | 0.124 |
| 62 | 5.17 | 0.20 | 0.167 | ( 0.716) | 0.043 | 0.124 |
| 63 | 5.25 | 0.20 | 0.167 | ( 0.712) | 0.043 | 0.124 |
| 64 | 5.33 | 0.23 | 0.195 | ( 0.709) | 0.050 | 0.144 |
| 65 | 5.42 | 0.23 | 0.195 | ( 0.706) | 0.050 | 0.144 |
| 66 | 5.50 | 0.23 | 0.195 | ( 0.703) | 0.050 | 0.144 |
| 67 | 5.58 | 0.27 | 0.222 | ( 0.700) | 0.058 | 0.165 |
| 68 | 5.67 | 0.27 | 0.222 | ( 0.697) | 0.058 | 0.165 |
| 69 | 5.75 | 0.27 | 0.222 | ( 0.694) | 0.058 | 0.165 |
| 70 | 5.83 | 0.27 | 0.222 | ( 0.691) | 0.058 | 0.165 |
| 71 | 5.92 | 0.27 | 0.222 | ( 0.688) | 0.058 | 0.165 |
| 72 | 6.00 | 0.27 | 0.222 | ( 0.685) | 0.058 | 0.165 |
| 73 | 6.08 | 0.30 | 0.250 | ( 0.682) | 0.065 | 0.185 |
| 74 | 6.17 | 0.30 | 0.250 | ( 0.679) | 0.065 | 0.185 |
| 75 | 6.25 | 0.30 | 0.250 | ( 0.676) | 0.065 | 0.185 |
| 76 | 6.33 | 0.30 | 0.250 | ( 0.673) | 0.065 | 0.185 |
| 77 | 6.42 | 0.30 | 0.250 | ( 0.670) | 0.065 | 0.185 |
| 78 | 6.50 | 0.30 | 0.250 | ( 0.667) | 0.065 | 0.185 |
| 79 | 6.58 | 0.33 | 0.278 | ( 0.664) | 0.072 | 0.206 |
| 80 | 6.67 | 0.33 | 0.278 | ( 0.661) | 0.072 | 0.206 |
| 81 | 6.75 | 0.33 | 0.278 | ( 0.658) | 0.072 | 0.206 |
| 82 | 6.83 | 0.33 | 0.278 | ( 0.655) | 0.072 | 0.206 |
| 83 | 6.92 | 0.33 | 0.278 | ( 0.652) | 0.072 | 0.206 |
| 84 | 7.00 | 0.33 | 0.278 | ( 0.649) | 0.072 | 0.206 |
| 85 | 7.08 | 0.33 | 0.278 | ( 0.646) | 0.072 | 0.206 |
| 86 | 7.17 | 0.33 | 0.278 | ( 0.643) | 0.072 | 0.206 |
| 87 | 7.25 | 0.33 | 0.278 | ( 0.640) | 0.072 | 0.206 |
| 88 | 7.33 | 0.37 | 0.306 | ( 0.637) | 0.079 | 0.227 |
| 89 | 7.42 | 0.37 | 0.306 | ( 0.634) | 0.079 | 0.227 |
| 90 | 7.50 | 0.37 | 0.306 | ( 0.631) | 0.079 | 0.227 |
| 91 | 7.58 | 0.40 | 0.334 | ( 0.628) | 0.086 | 0.247 |
| 92 | 7.67 | 0.40 | 0.334 | ( 0.625) | 0.086 | 0.247 |
| 93 | 7.75 | 0.40 | 0.334 | ( 0.622) | 0.086 | 0.247 |
| 94 | 7.83 | 0.43 | 0.361 | ( 0.620) | 0.094 | 0.268 |
| 95 | 7.92 | 0.43 | 0.361 | ( 0.617) | 0.094 | 0.268 |
| 96 | 8.00 | 0.43 | 0.361 | ( 0.614) | 0.094 | 0.268 |
| 97 | 8.08 | 0.50 | 0.417 | ( 0.611) | 0.108 | 0.309 |
| 98 | 8.17 | 0.50 | 0.417 | ( 0.608) | 0.108 | 0.309 |
| 99 | 8.25 | 0.50 | 0.417 | ( 0.605) | 0.108 | 0.309 |
| 100 | 8.33 | 0.50 | 0.417 | ( 0.603) | 0.108 | 0.309 |
| 101 | 8.42 | 0.50 | 0.417 | ( 0.600) | 0.108 | 0.309 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 102 | 8.50 | 0.50 | 0.417 | ( 0.597) | 0.108 | 0.309 |
| 103 | 8.58 | 0.53 | 0.445 | ( 0.594) | 0.115 | 0.330 |
| 104 | 8.67 | 0.53 | 0.445 | ( 0.591) | 0.115 | 0.330 |
| 105 | 8.75 | 0.53 | 0.445 | ( 0.589) | 0.115 | 0.330 |
| 106 | 8.83 | 0.57 | 0.473 | ( 0.586) | 0.122 | 0.350 |
| 107 | 8.92 | 0.57 | 0.473 | ( 0.583) | 0.122 | 0.350 |
| 108 | 9.00 | 0.57 | 0.473 | ( 0.580) | 0.122 | 0.350 |
| 109 | 9.08 | 0.63 | 0.528 | ( 0.577) | 0.137 | 0.391 |
| 110 | 9.17 | 0.63 | 0.528 | ( 0.575) | 0.137 | 0.391 |
| 111 | 9.25 | 0.63 | 0.528 | ( 0.572) | 0.137 | 0.391 |
| 112 | 9.33 | 0.67 | 0.556 | ( 0.569) | 0.144 | 0.412 |
| 113 | 9.42 | 0.67 | 0.556 | ( 0.567) | 0.144 | 0.412 |
| 114 | 9.50 | 0.67 | 0.556 | ( 0.564) | 0.144 | 0.412 |
| 115 | 9.58 | 0.70 | 0.584 | ( 0.561) | 0.151 | 0.433 |
| 116 | 9.67 | 0.70 | 0.584 | ( 0.558) | 0.151 | 0.433 |
| 117 | 9.75 | 0.70 | 0.584 | ( 0.556) | 0.151 | 0.433 |
| 118 | 9.83 | 0.73 | 0.612 | ( 0.553) | 0.158 | 0.453 |
| 119 | 9.92 | 0.73 | 0.612 | ( 0.550) | 0.158 | 0.453 |
| 120 | 10.00 | 0.73 | 0.612 | ( 0.548) | 0.158 | 0.453 |
| 121 | 10.08 | 0.50 | 0.417 | ( 0.545) | 0.108 | 0.309 |
| 122 | 10.17 | 0.50 | 0.417 | ( 0.542) | 0.108 | 0.309 |
| 123 | 10.25 | 0.50 | 0.417 | ( 0.540) | 0.108 | 0.309 |
| 124 | 10.33 | 0.50 | 0.417 | ( 0.537) | 0.108 | 0.309 |
| 125 | 10.42 | 0.50 | 0.417 | ( 0.535) | 0.108 | 0.309 |
| 126 | 10.50 | 0.50 | 0.417 | ( 0.532) | 0.108 | 0.309 |
| 127 | 10.58 | 0.67 | 0.556 | ( 0.529) | 0.144 | 0.412 |
| 128 | 10.67 | 0.67 | 0.556 | ( 0.527) | 0.144 | 0.412 |
| 129 | 10.75 | 0.67 | 0.556 | ( 0.524) | 0.144 | 0.412 |
| 130 | 10.83 | 0.67 | 0.556 | ( 0.522) | 0.144 | 0.412 |
| 131 | 10.92 | 0.67 | 0.556 | ( 0.519) | 0.144 | 0.412 |
| 132 | 11.00 | 0.67 | 0.556 | ( 0.517) | 0.144 | 0.412 |
| 133 | 11.08 | 0.63 | 0.528 | ( 0.514) | 0.137 | 0.391 |
| 134 | 11.17 | 0.63 | 0.528 | ( 0.511) | 0.137 | 0.391 |
| 135 | 11.25 | 0.63 | 0.528 | ( 0.509) | 0.137 | 0.391 |
| 136 | 11.33 | 0.63 | 0.528 | ( 0.506) | 0.137 | 0.391 |
| 137 | 11.42 | 0.63 | 0.528 | ( 0.504) | 0.137 | 0.391 |
| 138 | 11.50 | 0.63 | 0.528 | ( 0.501) | 0.137 | 0.391 |
| 139 | 11.58 | 0.57 | 0.473 | ( 0.499) | 0.122 | 0.350 |
| 140 | 11.67 | 0.57 | 0.473 | ( 0.496) | 0.122 | 0.350 |
| 141 | 11.75 | 0.57 | 0.473 | ( 0.494) | 0.122 | 0.350 |
| 142 | 11.83 | 0.60 | 0.500 | ( 0.492) | 0.130 | 0.371 |
| 143 | 11.92 | 0.60 | 0.500 | ( 0.489) | 0.130 | 0.371 |
| 144 | 12.00 | 0.60 | 0.500 | ( 0.487) | 0.130 | 0.371 |
| 145 | 12.08 | 0.83 | 0.695 | ( 0.484) | 0.180 | 0.515 |
| 146 | 12.17 | 0.83 | 0.695 | ( 0.482) | 0.180 | 0.515 |
| 147 | 12.25 | 0.83 | 0.695 | ( 0.479) | 0.180 | 0.515 |
| 148 | 12.33 | 0.87 | 0.723 | ( 0.477) | 0.187 | 0.536 |
| 149 | 12.42 | 0.87 | 0.723 | ( 0.475) | 0.187 | 0.536 |
| 150 | 12.50 | 0.87 | 0.723 | ( 0.472) | 0.187 | 0.536 |
| 151 | 12.58 | 0.93 | 0.778 | ( 0.470) | 0.202 | 0.577 |
| 152 | 12.67 | 0.93 | 0.778 | ( 0.467) | 0.202 | 0.577 |
| 153 | 12.75 | 0.93 | 0.778 | ( 0.465) | 0.202 | 0.577 |
| 154 | 12.83 | 0.97 | 0.806 | ( 0.463) | 0.209 | 0.597 |
| 155 | 12.92 | 0.97 | 0.806 | ( 0.460) | 0.209 | 0.597 |
| 156 | 13.00 | 0.97 | 0.806 | ( 0.458) | 0.209 | 0.597 |
| 157 | 13.08 | 1.13 | 0.945 | ( 0.456) | 0.245 | 0.700 |
| 158 | 13.17 | 1.13 | 0.945 | ( 0.453) | 0.245 | 0.700 |
| 159 | 13.25 | 1.13 | 0.945 | ( 0.451) | 0.245 | 0.700 |
| 160 | 13.33 | 1.13 | 0.945 | ( 0.449) | 0.245 | 0.700 |
| 161 | 13.42 | 1.13 | 0.945 | ( 0.447) | 0.245 | 0.700 |
| 162 | 13.50 | 1.13 | 0.945 | ( 0.444) | 0.245 | 0.700 |
| 163 | 13.58 | 0.77 | 0.639 | ( 0.442) | 0.166 | 0.474 |
| 164 | 13.67 | 0.77 | 0.639 | ( 0.440) | 0.166 | 0.474 |
| 165 | 13.75 | 0.77 | 0.639 | ( 0.438) | 0.166 | 0.474 |
| 166 | 13.83 | 0.77 | 0.639 | ( 0.435) | 0.166 | 0.474 |
| 167 | 13.92 | 0.77 | 0.639 | ( 0.433) | 0.166 | 0.474 |
| 168 | 14.00 | 0.77 | 0.639 | ( 0.431) | 0.166 | 0.474 |
| 169 | 14.08 | 0.90 | 0.751 | ( 0.429) | 0.194 | 0.556 |
| 170 | 14.17 | 0.90 | 0.751 | ( 0.426) | 0.194 | 0.556 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 171 | 14.25 | 0.90 | 0.751 | ( | 0.424) | 0.194 | 0.556 |
| 172 | 14.33 | 0.87 | 0.723 | ( | 0.422) | 0.187 | 0.536 |
| 173 | 14.42 | 0.87 | 0.723 | ( | 0.420) | 0.187 | 0.536 |
| 174 | 14.50 | 0.87 | 0.723 | ( | 0.418) | 0.187 | 0.536 |
| 175 | 14.58 | 0.87 | 0.723 | ( | 0.416) | 0.187 | 0.536 |
| 176 | 14.67 | 0.87 | 0.723 | ( | 0.414) | 0.187 | 0.536 |
| 177 | 14.75 | 0.87 | 0.723 | ( | 0.411) | 0.187 | 0.536 |
| 178 | 14.83 | 0.83 | 0.695 | ( | 0.409) | 0.180 | 0.515 |
| 179 | 14.92 | 0.83 | 0.695 | ( | 0.407) | 0.180 | 0.515 |
| 180 | 15.00 | 0.83 | 0.695 | ( | 0.405) | 0.180 | 0.515 |
| 181 | 15.08 | 0.80 | 0.667 | ( | 0.403) | 0.173 | 0.494 |
| 182 | 15.17 | 0.80 | 0.667 | ( | 0.401) | 0.173 | 0.494 |
| 183 | 15.25 | 0.80 | 0.667 | ( | 0.399) | 0.173 | 0.494 |
| 184 | 15.33 | 0.77 | 0.639 | ( | 0.397) | 0.166 | 0.474 |
| 185 | 15.42 | 0.77 | 0.639 | ( | 0.395) | 0.166 | 0.474 |
| 186 | 15.50 | 0.77 | 0.639 | ( | 0.393) | 0.166 | 0.474 |
| 187 | 15.58 | 0.63 | 0.528 | ( | 0.391) | 0.137 | 0.391 |
| 188 | 15.67 | 0.63 | 0.528 | ( | 0.389) | 0.137 | 0.391 |
| 189 | 15.75 | 0.63 | 0.528 | ( | 0.387) | 0.137 | 0.391 |
| 190 | 15.83 | 0.63 | 0.528 | ( | 0.385) | 0.137 | 0.391 |
| 191 | 15.92 | 0.63 | 0.528 | ( | 0.383) | 0.137 | 0.391 |
| 192 | 16.00 | 0.63 | 0.528 | ( | 0.381) | 0.137 | 0.391 |
| 193 | 16.08 | 0.13 | 0.111 | ( | 0.379) | 0.029 | 0.082 |
| 194 | 16.17 | 0.13 | 0.111 | ( | 0.377) | 0.029 | 0.082 |
| 195 | 16.25 | 0.13 | 0.111 | ( | 0.375) | 0.029 | 0.082 |
| 196 | 16.33 | 0.13 | 0.111 | ( | 0.373) | 0.029 | 0.082 |
| 197 | 16.42 | 0.13 | 0.111 | ( | 0.371) | 0.029 | 0.082 |
| 198 | 16.50 | 0.13 | 0.111 | ( | 0.369) | 0.029 | 0.082 |
| 199 | 16.58 | 0.10 | 0.083 | ( | 0.368) | 0.022 | 0.062 |
| 200 | 16.67 | 0.10 | 0.083 | ( | 0.366) | 0.022 | 0.062 |
| 201 | 16.75 | 0.10 | 0.083 | ( | 0.364) | 0.022 | 0.062 |
| 202 | 16.83 | 0.10 | 0.083 | ( | 0.362) | 0.022 | 0.062 |
| 203 | 16.92 | 0.10 | 0.083 | ( | 0.360) | 0.022 | 0.062 |
| 204 | 17.00 | 0.10 | 0.083 | ( | 0.358) | 0.022 | 0.062 |
| 205 | 17.08 | 0.17 | 0.139 | ( | 0.356) | 0.036 | 0.103 |
| 206 | 17.17 | 0.17 | 0.139 | ( | 0.355) | 0.036 | 0.103 |
| 207 | 17.25 | 0.17 | 0.139 | ( | 0.353) | 0.036 | 0.103 |
| 208 | 17.33 | 0.17 | 0.139 | ( | 0.351) | 0.036 | 0.103 |
| 209 | 17.42 | 0.17 | 0.139 | ( | 0.349) | 0.036 | 0.103 |
| 210 | 17.50 | 0.17 | 0.139 | ( | 0.348) | 0.036 | 0.103 |
| 211 | 17.58 | 0.17 | 0.139 | ( | 0.346) | 0.036 | 0.103 |
| 212 | 17.67 | 0.17 | 0.139 | ( | 0.344) | 0.036 | 0.103 |
| 213 | 17.75 | 0.17 | 0.139 | ( | 0.342) | 0.036 | 0.103 |
| 214 | 17.83 | 0.13 | 0.111 | ( | 0.341) | 0.029 | 0.082 |
| 215 | 17.92 | 0.13 | 0.111 | ( | 0.339) | 0.029 | 0.082 |
| 216 | 18.00 | 0.13 | 0.111 | ( | 0.337) | 0.029 | 0.082 |
| 217 | 18.08 | 0.13 | 0.111 | ( | 0.336) | 0.029 | 0.082 |
| 218 | 18.17 | 0.13 | 0.111 | ( | 0.334) | 0.029 | 0.082 |
| 219 | 18.25 | 0.13 | 0.111 | ( | 0.332) | 0.029 | 0.082 |
| 220 | 18.33 | 0.13 | 0.111 | ( | 0.331) | 0.029 | 0.082 |
| 221 | 18.42 | 0.13 | 0.111 | ( | 0.329) | 0.029 | 0.082 |
| 222 | 18.50 | 0.13 | 0.111 | ( | 0.328) | 0.029 | 0.082 |
| 223 | 18.58 | 0.10 | 0.083 | ( | 0.326) | 0.022 | 0.062 |
| 224 | 18.67 | 0.10 | 0.083 | ( | 0.324) | 0.022 | 0.062 |
| 225 | 18.75 | 0.10 | 0.083 | ( | 0.323) | 0.022 | 0.062 |
| 226 | 18.83 | 0.07 | 0.056 | ( | 0.321) | 0.014 | 0.041 |
| 227 | 18.92 | 0.07 | 0.056 | ( | 0.320) | 0.014 | 0.041 |
| 228 | 19.00 | 0.07 | 0.056 | ( | 0.318) | 0.014 | 0.041 |
| 229 | 19.08 | 0.10 | 0.083 | ( | 0.317) | 0.022 | 0.062 |
| 230 | 19.17 | 0.10 | 0.083 | ( | 0.315) | 0.022 | 0.062 |
| 231 | 19.25 | 0.10 | 0.083 | ( | 0.314) | 0.022 | 0.062 |
| 232 | 19.33 | 0.13 | 0.111 | ( | 0.312) | 0.029 | 0.082 |
| 233 | 19.42 | 0.13 | 0.111 | ( | 0.311) | 0.029 | 0.082 |
| 234 | 19.50 | 0.13 | 0.111 | ( | 0.309) | 0.029 | 0.082 |
| 235 | 19.58 | 0.10 | 0.083 | ( | 0.308) | 0.022 | 0.062 |
| 236 | 19.67 | 0.10 | 0.083 | ( | 0.307) | 0.022 | 0.062 |
| 237 | 19.75 | 0.10 | 0.083 | ( | 0.305) | 0.022 | 0.062 |
| 238 | 19.83 | 0.07 | 0.056 | ( | 0.304) | 0.014 | 0.041 |
| 239 | 19.92 | 0.07 | 0.056 | ( | 0.303) | 0.014 | 0.041 |

```
240  20.00     0.07      0.056       (  0.301)       0.014        0.041
241  20.08     0.10      0.083       (  0.300)       0.022        0.062
242  20.17     0.10      0.083       (  0.299)       0.022        0.062
243  20.25     0.10      0.083       (  0.297)       0.022        0.062
244  20.33     0.10      0.083       (  0.296)       0.022        0.062
245  20.42     0.10      0.083       (  0.295)       0.022        0.062
246  20.50     0.10      0.083       (  0.293)       0.022        0.062
247  20.58     0.10      0.083       (  0.292)       0.022        0.062
248  20.67     0.10      0.083       (  0.291)       0.022        0.062
249  20.75     0.10      0.083       (  0.290)       0.022        0.062
250  20.83     0.07      0.056       (  0.289)       0.014        0.041
251  20.92     0.07      0.056       (  0.287)       0.014        0.041
252  21.00     0.07      0.056       (  0.286)       0.014        0.041
253  21.08     0.10      0.083       (  0.285)       0.022        0.062
254  21.17     0.10      0.083       (  0.284)       0.022        0.062
255  21.25     0.10      0.083       (  0.283)       0.022        0.062
256  21.33     0.07      0.056       (  0.282)       0.014        0.041
257  21.42     0.07      0.056       (  0.281)       0.014        0.041
258  21.50     0.07      0.056       (  0.280)       0.014        0.041
259  21.58     0.10      0.083       (  0.279)       0.022        0.062
260  21.67     0.10      0.083       (  0.278)       0.022        0.062
261  21.75     0.10      0.083       (  0.277)       0.022        0.062
262  21.83     0.07      0.056       (  0.276)       0.014        0.041
263  21.92     0.07      0.056       (  0.275)       0.014        0.041
264  22.00     0.07      0.056       (  0.274)       0.014        0.041
265  22.08     0.10      0.083       (  0.273)       0.022        0.062
266  22.17     0.10      0.083       (  0.272)       0.022        0.062
267  22.25     0.10      0.083       (  0.271)       0.022        0.062
268  22.33     0.07      0.056       (  0.270)       0.014        0.041
269  22.42     0.07      0.056       (  0.270)       0.014        0.041
270  22.50     0.07      0.056       (  0.269)       0.014        0.041
271  22.58     0.07      0.056       (  0.268)       0.014        0.041
272  22.67     0.07      0.056       (  0.267)       0.014        0.041
273  22.75     0.07      0.056       (  0.266)       0.014        0.041
274  22.83     0.07      0.056       (  0.266)       0.014        0.041
275  22.92     0.07      0.056       (  0.265)       0.014        0.041
276  23.00     0.07      0.056       (  0.264)       0.014        0.041
277  23.08     0.07      0.056       (  0.264)       0.014        0.041
278  23.17     0.07      0.056       (  0.263)       0.014        0.041
279  23.25     0.07      0.056       (  0.263)       0.014        0.041
280  23.33     0.07      0.056       (  0.262)       0.014        0.041
281  23.42     0.07      0.056       (  0.262)       0.014        0.041
282  23.50     0.07      0.056       (  0.261)       0.014        0.041
283  23.58     0.07      0.056       (  0.261)       0.014        0.041
284  23.67     0.07      0.056       (  0.260)       0.014        0.041
285  23.75     0.07      0.056       (  0.260)       0.014        0.041
286  23.83     0.07      0.056       (  0.260)       0.014        0.041
287  23.92     0.07      0.056       (  0.260)       0.014        0.041
288  24.00     0.07      0.056       (  0.259)       0.014        0.041
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    61.8
       Flood volume = Effective rainfall      5.15(In)
        times area      14.3(Ac.)/[(In)/(Ft.)] =       6.1(Ac.Ft)
       Total soil loss =      1.80(In)
       Total soil loss =     2.140(Ac.Ft)
       Total rainfall =      6.95(In)
       Flood volume =      266760.5 Cubic Feet
       Total soil loss =       93240.2 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     10.078(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           24 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0014 | 0.21 | Q | | | | |
| 0+10 | 0.0047 | 0.48 | Q | | | | |
| 0+15 | 0.0085 | 0.55 | VQ | | | | |
| 0+20 | 0.0132 | 0.68 | VQ | | | | |
| 0+25 | 0.0189 | 0.83 | VQ | | | | |
| 0+30 | 0.0248 | 0.87 | VQ | | | | |
| 0+35 | 0.0309 | 0.88 | VQ | | | | |
| 0+40 | 0.0370 | 0.89 | VQ | | | | |
| 0+45 | 0.0431 | 0.89 | VQ | | | | |
| 0+50 | 0.0500 | 0.99 | VQ | | | | |
| 0+55 | 0.0578 | 1.13 | V Q | | | | |
| 1+ 0 | 0.0658 | 1.16 | V Q | | | | |
| 1+ 5 | 0.0732 | 1.07 | V Q | | | | |
| 1+10 | 0.0796 | 0.94 | VQ | | | | |
| 1+15 | 0.0859 | 0.91 | VQ | | | | |
| 1+20 | 0.0921 | 0.90 | VQ | | | | |
| 1+25 | 0.0983 | 0.89 | VQ | | | | |
| 1+30 | 0.1044 | 0.89 | VQ | | | | |
| 1+35 | 0.1105 | 0.89 | VQ | | | | |
| 1+40 | 0.1166 | 0.89 | VQ | | | | |
| 1+45 | 0.1227 | 0.89 | VQ | | | | |
| 1+50 | 0.1296 | 0.99 | VQ | | | | |
| 1+55 | 0.1374 | 1.13 | V Q | | | | |
| 2+ 0 | 0.1454 | 1.16 | V Q | | | | |
| 2+ 5 | 0.1535 | 1.18 | \|VQ | | | | |
| 2+10 | 0.1616 | 1.18 | \|VQ | | | | |
| 2+15 | 0.1698 | 1.19 | \|VQ | | | | |
| 2+20 | 0.1780 | 1.19 | \|VQ | | | | |
| 2+25 | 0.1861 | 1.19 | \|VQ | | | | |
| 2+30 | 0.1943 | 1.19 | \|VQ | | | | |
| 2+35 | 0.2032 | 1.29 | \|VQ | | | | |
| 2+40 | 0.2130 | 1.43 | \|VQ | | | | |
| 2+45 | 0.2230 | 1.46 | \|VQ | | | | |
| 2+50 | 0.2332 | 1.47 | \|VQ | | | | |
| 2+55 | 0.2434 | 1.48 | \|VQ | | | | |
| 3+ 0 | 0.2536 | 1.48 | \|VQ | | | | |
| 3+ 5 | 0.2638 | 1.48 | \|VQ | | | | |
| 3+10 | 0.2740 | 1.48 | \|VQ | | | | |
| 3+15 | 0.2842 | 1.48 | \|VQ | | | | |
| 3+20 | 0.2944 | 1.48 | \|VQ | | | | |
| 3+25 | 0.3046 | 1.48 | \|VQ | | | | |
| 3+30 | 0.3148 | 1.48 | \| Q | | | | |
| 3+35 | 0.3250 | 1.48 | \| Q | | | | |
| 3+40 | 0.3352 | 1.48 | \| Q | | | | |
| 3+45 | 0.3454 | 1.48 | \| Q | | | | |
| 3+50 | 0.3564 | 1.59 | \| VQ | | | | |
| 3+55 | 0.3682 | 1.72 | \| VQ | | | | |
| 4+ 0 | 0.3803 | 1.76 | \| VQ | | | | |
| 4+ 5 | 0.3925 | 1.77 | \| VQ | | | | |
| 4+10 | 0.4047 | 1.78 | \| VQ | | | | |
| 4+15 | 0.4170 | 1.78 | \| VQ | | | | |
| 4+20 | 0.4299 | 1.88 | \| VQ | | | | |
| 4+25 | 0.4438 | 2.02 | \| V Q | | | | |
| 4+30 | 0.4580 | 2.05 | \| V Q | | | | |
| 4+35 | 0.4722 | 2.07 | \|  VQ | | | | |
| 4+40 | 0.4865 | 2.07 | \|  VQ | | | | |
| 4+45 | 0.5008 | 2.07 | \|  VQ | | | | |
| 4+50 | 0.5158 | 2.18 | \|  VQ | | | | |
| 4+55 | 0.5317 | 2.32 | \|  VQ | | | | |
| 5+ 0 | 0.5479 | 2.35 | \|  VQ | | | | |
| 5+ 5 | 0.5627 | 2.15 | \|  VQ | | | | |
| 5+10 | 0.5757 | 1.89 | \|  Q | | | | |
| 5+15 | 0.5883 | 1.82 | \|  Q | | | | |
| 5+20 | 0.6014 | 1.90 | \|  Q | | | | |
| 5+25 | 0.6153 | 2.03 | \|   Q | | | | |
| 5+30 | 0.6294 | 2.05 | \|   Q | | | | |
| 5+35 | 0.6444 | 2.17 | \|   Q | | | | |
| 5+40 | 0.6603 | 2.31 | \|   Q | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5+45 | 0.6765 | 2.35 | Q | | | |
| 5+50 | 0.6927 | 2.36 | Q | | | |
| 5+55 | 0.7091 | 2.37 | Q | | | |
| 6+ 0 | 0.7254 | 2.37 | Q | | | |
| 6+ 5 | 0.7424 | 2.47 | Q | | | |
| 6+10 | 0.7604 | 2.61 | VQ | | | |
| 6+15 | 0.7786 | 2.64 | Q | | | |
| 6+20 | 0.7969 | 2.66 | Q | | | |
| 6+25 | 0.8153 | 2.66 | Q | | | |
| 6+30 | 0.8337 | 2.67 | Q | | | |
| 6+35 | 0.8528 | 2.77 | Q | | | |
| 6+40 | 0.8728 | 2.91 | Q | | | |
| 6+45 | 0.8930 | 2.94 | Q | | | |
| 6+50 | 0.9134 | 2.95 | Q | | | |
| 6+55 | 0.9338 | 2.96 | QV | | | |
| 7+ 0 | 0.9542 | 2.96 | QV | | | |
| 7+ 5 | 0.9746 | 2.96 | QV | | | |
| 7+10 | 0.9950 | 2.96 | QV | | | |
| 7+15 | 1.0154 | 2.96 | QV | | | |
| 7+20 | 1.0366 | 3.07 | Q | | | |
| 7+25 | 1.0586 | 3.21 | Q | | | |
| 7+30 | 1.0809 | 3.24 | QV | | | |
| 7+35 | 1.1040 | 3.35 | QV | | | |
| 7+40 | 1.1281 | 3.50 | QV | | | |
| 7+45 | 1.1525 | 3.53 | Q | | | |
| 7+50 | 1.1776 | 3.65 | Q | | | |
| 7+55 | 1.2037 | 3.80 | Q | | | |
| 8+ 0 | 1.2301 | 3.83 | QV | | | |
| 8+ 5 | 1.2580 | 4.05 | Q | | | |
| 8+10 | 1.2879 | 4.33 | Q | | | |
| 8+15 | 1.3182 | 4.40 | Q | | | |
| 8+20 | 1.3487 | 4.43 | Q | | | |
| 8+25 | 1.3792 | 4.44 | QV | | | |
| 8+30 | 1.4099 | 4.45 | QV | | | |
| 8+35 | 1.4412 | 4.55 | Q | | | |
| 8+40 | 1.4735 | 4.69 | Q | | | |
| 8+45 | 1.5060 | 4.72 | Q | | | |
| 8+50 | 1.5393 | 4.84 | QV | | | |
| 8+55 | 1.5736 | 4.98 | QV | | | |
| 9+ 0 | 1.6081 | 5.02 | Q | | | |
| 9+ 5 | 1.6442 | 5.24 | Q | | | |
| 9+10 | 1.6822 | 5.52 | VQ | | | |
| 9+15 | 1.7207 | 5.59 | Q | | | |
| 9+20 | 1.7600 | 5.72 | Q | | | |
| 9+25 | 1.8004 | 5.87 | Q | | | |
| 9+30 | 1.8411 | 5.90 | QV | | | |
| 9+35 | 1.8826 | 6.02 | Q | | | |
| 9+40 | 1.9251 | 6.17 | Q | | | |
| 9+45 | 1.9678 | 6.20 | Q | | | |
| 9+50 | 2.0113 | 6.32 | QV | | | |
| 9+55 | 2.0558 | 6.46 | QV | | | |
| 10+ 0 | 2.1005 | 6.50 | QV | | | |
| 10+ 5 | 2.1404 | 5.79 | Q V | | | |
| 10+10 | 2.1736 | 4.83 | Q V | | | |
| 10+15 | 2.2054 | 4.61 | Q V | | | |
| 10+20 | 2.2365 | 4.51 | Q V | | | |
| 10+25 | 2.2672 | 4.47 | Q V | | | |
| 10+30 | 2.2978 | 4.45 | Q V | | | |
| 10+35 | 2.3320 | 4.96 | Q V | | | |
| 10+40 | 2.3709 | 5.65 | Q V | | | |
| 10+45 | 2.4110 | 5.81 | Q V | | | |
| 10+50 | 2.4515 | 5.88 | Q V | | | |
| 10+55 | 2.4922 | 5.91 | Q V | | | |
| 11+ 0 | 2.5330 | 5.93 | Q V | | | |
| 11+ 5 | 2.5731 | 5.82 | Q V | | | |
| 11+10 | 2.6123 | 5.69 | Q V | | | |
| 11+15 | 2.6513 | 5.65 | Q V | | | |
| 11+20 | 2.6901 | 5.64 | Q V | | | |
| 11+25 | 2.7289 | 5.63 | Q V | | | |

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|---|---|---|---|---|---|---|---|
| 11+30 | 2.7677 | 5.63 | \| | \|Q V \| | \| | \| |
| 11+35 | 2.8051 | 5.42 | \| | Q V \| | \| | \| |
| 11+40 | 2.8405 | 5.15 | \| | Q V \| | \| | \| |
| 11+45 | 2.8755 | 5.09 | \| | Q V \| | \| | \| |
| 11+50 | 2.9111 | 5.16 | \| | Q V\| | \| | \| |
| 11+55 | 2.9475 | 5.29 | \| | Q V\| | \| | \| |
| 12+ 0 | 2.9841 | 5.31 | \| | Q V\| | \| | \| |
| 12+ 5 | 3.0257 | 6.05 | \| | \| Q V\| | \| | \| |
| 12+10 | 3.0741 | 7.02 | \| | \| Q V | \| | \| |
| 12+15 | 3.1240 | 7.25 | \| | \| Q V | \| | \| |
| 12+20 | 3.1753 | 7.45 | \| | \| Q V | \| | \| |
| 12+25 | 3.2279 | 7.63 | \| | \| Q \|V | \| | \| |
| 12+30 | 3.2808 | 7.68 | \| | \| Q \|V | \| | \| |
| 12+35 | 3.3352 | 7.90 | \| | \| Q \|V | \| | \| |
| 12+40 | 3.3916 | 8.19 | \| | \| Q \| V | \| | \| |
| 12+45 | 3.4484 | 8.25 | \| | \| Q \| V | \| | \| |
| 12+50 | 3.5062 | 8.38 | \| | \| Q \| V | \| | \| |
| 12+55 | 3.5650 | 8.54 | \| | \| Q \| V | \| | \| |
| 13+ 0 | 3.6240 | 8.57 | \| | \| Q \| V | \| | \| |
| 13+ 5 | 3.6867 | 9.10 | \| | \| Q \| V | \| | \| |
| 13+10 | 3.7542 | 9.80 | \| | \| Q\| V | \| | \| |
| 13+15 | 3.8228 | 9.96 | \| | \| Q\| V | \| | \| |
| 13+20 | 3.8919 | 10.03 | \| | \| Q V | \| | \| |
| 13+25 | 3.9612 | 10.06 | \| | \| Q V | \| | \| |
| 13+30 | 4.0306 | 10.08 | \| | \| Q V | \| | \| |
| 13+35 | 4.0921 | 8.94 | \| | \| Q \| V | \| | \| |
| 13+40 | 4.1433 | 7.42 | \| | \| Q \| V | \| | \| |
| 13+45 | 4.1920 | 7.07 | \| | \| Q \| V | \| | \| |
| 13+50 | 4.2396 | 6.92 | \| | \| Q \| V | \| | \| |
| 13+55 | 4.2868 | 6.85 | \| | \| Q \| V | \| | \| |
| 14+ 0 | 4.3338 | 6.82 | \| | \| Q \| V | \| | \| |
| 14+ 5 | 4.3836 | 7.23 | \| | \| Q \| V | \| | \| |
| 14+10 | 4.4372 | 7.78 | \| | \| Q \| V | \| | \| |
| 14+15 | 4.4916 | 7.91 | \| | \| Q \| V\| | \| | \| |
| 14+20 | 4.5458 | 7.86 | \| | \| Q \| V\| | \| | \| |
| 14+25 | 4.5992 | 7.75 | \| | \| Q \| V | \| | \| |
| 14+30 | 4.6524 | 7.73 | \| | \| Q \| V | \| | \| |
| 14+35 | 4.7055 | 7.72 | \| | \| Q \| V | \| | \| |
| 14+40 | 4.7586 | 7.71 | \| | \| Q \| \|V | \| | \| |
| 14+45 | 4.8117 | 7.71 | \| | \| Q \| \|V | \| | \| |
| 14+50 | 4.8641 | 7.60 | \| | \| Q \| \|V | \| | \| |
| 14+55 | 4.9155 | 7.47 | \| | \| Q \| \| V | \| | \| |
| 15+ 0 | 4.9667 | 7.43 | \| | \| Q \| \| V | \| | \| |
| 15+ 5 | 5.0170 | 7.32 | \| | \| Q \| \| V | \| | \| |
| 15+10 | 5.0664 | 7.17 | \| | \| Q \| \| V | \| | \| |
| 15+15 | 5.1156 | 7.14 | \| | \| Q \| \| V | \| | \| |
| 15+20 | 5.1639 | 7.02 | \| | \| Q \| \| V | \| | \| |
| 15+25 | 5.2113 | 6.88 | \| | \| Q \| \| V | \| | \| |
| 15+30 | 5.2584 | 6.84 | \| | \| Q \| \| V | \| | \| |
| 15+35 | 5.3026 | 6.41 | \| | \| Q \| \| V | \| | \| |
| 15+40 | 5.3429 | 5.85 | \| | \|Q \| \| V | \| | \| |
| 15+45 | 5.3823 | 5.72 | \| | \|Q \| \| V | \| | \| |
| 15+50 | 5.4213 | 5.67 | \| | \|Q \| \| V | \| | \| |
| 15+55 | 5.4602 | 5.64 | \| | \|Q \| \| V | \| | \| |
| 16+ 0 | 5.4990 | 5.63 | \| | \|Q \| \| V | \| | \| |
| 16+ 5 | 5.5271 | 4.08 | \| | Q \| \| V | \| | \| |
| 16+10 | 5.5409 | 2.01 | \| | Q \| \| V | \| | \| |
| 16+15 | 5.5515 | 1.53 | \| | Q \| \| V | \| | \| |
| 16+20 | 5.5606 | 1.33 | \| | Q \| \| V | \| | \| |
| 16+25 | 5.5691 | 1.23 | \| | Q \| \| V | \| | \| |
| 16+30 | 5.5773 | 1.19 | \| | Q \| \| V | \| | \| |
| 16+35 | 5.5847 | 1.08 | \| | Q \| \| V | \| | \| |
| 16+40 | 5.5912 | 0.94 | \| | Q \| \| V | \| | \| |
| 16+45 | 5.5975 | 0.91 | \| | Q \| \| V | \| | \| |
| 16+50 | 5.6037 | 0.90 | \| | Q \| \| V | \| | \| |
| 16+55 | 5.6098 | 0.89 | \| | Q \| \| V | \| | \| |
| 17+ 0 | 5.6160 | 0.89 | \| | Q \| \| V | \| | \| |
| 17+ 5 | 5.6235 | 1.10 | \| | Q \| \| V | \| | \| |
| 17+10 | 5.6330 | 1.37 | \| | Q \| \| V | \| | \| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17+15 | 5.6428 | 1.44 | Q | | | | V |
| 17+20 | 5.6529 | 1.46 | Q | | | | V |
| 17+25 | 5.6631 | 1.48 | Q | | | | V |
| 17+30 | 5.6733 | 1.48 | Q | | | | V |
| 17+35 | 5.6835 | 1.48 | Q | | | | V |
| 17+40 | 5.6937 | 1.48 | Q | | | | V |
| 17+45 | 5.7039 | 1.48 | Q | | | | V |
| 17+50 | 5.7134 | 1.38 | Q | | | | V |
| 17+55 | 5.7220 | 1.24 | Q | | | | V |
| 18+ 0 | 5.7303 | 1.21 | Q | | | | V |
| 18+ 5 | 5.7385 | 1.20 | Q | | | | V |
| 18+10 | 5.7467 | 1.19 | Q | | | | V |
| 18+15 | 5.7549 | 1.19 | Q | | | | V |
| 18+20 | 5.7630 | 1.19 | Q | | | | V |
| 18+25 | 5.7712 | 1.19 | Q | | | | V |
| 18+30 | 5.7794 | 1.19 | Q | | | | V |
| 18+35 | 5.7868 | 1.08 | Q | | | | V |
| 18+40 | 5.7933 | 0.94 | Q | | | | V |
| 18+45 | 5.7996 | 0.91 | Q | | | | V |
| 18+50 | 5.8051 | 0.80 | Q | | | | V |
| 18+55 | 5.8095 | 0.65 | Q | | | | V |
| 19+ 0 | 5.8138 | 0.62 | Q | | | | V |
| 19+ 5 | 5.8187 | 0.71 | Q | | | | V |
| 19+10 | 5.8244 | 0.84 | Q | | | | V |
| 19+15 | 5.8304 | 0.87 | Q | | | | V |
| 19+20 | 5.8372 | 0.98 | Q | | | | V |
| 19+25 | 5.8449 | 1.13 | Q | | | | V |
| 19+30 | 5.8529 | 1.16 | Q | | | | V |
| 19+35 | 5.8603 | 1.07 | Q | | | | V |
| 19+40 | 5.8668 | 0.94 | Q | | | | V |
| 19+45 | 5.8731 | 0.91 | Q | | | | V |
| 19+50 | 5.8786 | 0.80 | Q | | | | V |
| 19+55 | 5.8830 | 0.65 | Q | | | | V |
| 20+ 0 | 5.8873 | 0.62 | Q | | | | V |
| 20+ 5 | 5.8921 | 0.71 | Q | | | | V |
| 20+10 | 5.8979 | 0.84 | Q | | | | V |
| 20+15 | 5.9039 | 0.87 | Q | | | | V |
| 20+20 | 5.9099 | 0.88 | Q | | | | V |
| 20+25 | 5.9160 | 0.89 | Q | | | | V |
| 20+30 | 5.9222 | 0.89 | Q | | | | V |
| 20+35 | 5.9283 | 0.89 | Q | | | | V |
| 20+40 | 5.9344 | 0.89 | Q | | | | V |
| 20+45 | 5.9405 | 0.89 | Q | | | | V |
| 20+50 | 5.9459 | 0.79 | Q | | | | V |
| 20+55 | 5.9504 | 0.65 | Q | | | | V |
| 21+ 0 | 5.9546 | 0.62 | Q | | | | V |
| 21+ 5 | 5.9595 | 0.71 | Q | | | | V |
| 21+10 | 5.9653 | 0.84 | Q | | | | V |
| 21+15 | 5.9712 | 0.87 | Q | | | | V |
| 21+20 | 5.9766 | 0.78 | Q | | | | V |
| 21+25 | 5.9810 | 0.65 | Q | | | | V |
| 21+30 | 5.9853 | 0.62 | Q | | | | V |
| 21+35 | 5.9901 | 0.71 | Q | | | | V |
| 21+40 | 5.9959 | 0.84 | Q | | | | V |
| 21+45 | 6.0019 | 0.87 | Q | | | | V |
| 21+50 | 6.0072 | 0.78 | Q | | | | V |
| 21+55 | 6.0116 | 0.65 | Q | | | | V |
| 22+ 0 | 6.0159 | 0.62 | Q | | | | V |
| 22+ 5 | 6.0207 | 0.71 | Q | | | | V |
| 22+10 | 6.0265 | 0.84 | Q | | | | V |
| 22+15 | 6.0325 | 0.87 | Q | | | | V |
| 22+20 | 6.0378 | 0.78 | Q | | | | V |
| 22+25 | 6.0423 | 0.65 | Q | | | | V |
| 22+30 | 6.0465 | 0.62 | Q | | | | V |
| 22+35 | 6.0507 | 0.60 | Q | | | | V |
| 22+40 | 6.0548 | 0.60 | Q | | | | V |
| 22+45 | 6.0588 | 0.59 | Q | | | | V |
| 22+50 | 6.0629 | 0.59 | Q | | | | V |
| 22+55 | 6.0670 | 0.59 | Q | | | | V |

```
   23+ 0       6.0711      0.59  |Q        |         |         |        V|
   23+ 5       6.0752      0.59  |Q        |         |         |        V|
   23+10       6.0792      0.59  |Q        |         |         |        V|
   23+15       6.0833      0.59  |Q        |         |         |        V|
   23+20       6.0874      0.59  |Q        |         |         |        V|
   23+25       6.0915      0.59  |Q        |         |         |        V|
   23+30       6.0956      0.59  |Q        |         |         |        V|
   23+35       6.0997      0.59  |Q        |         |         |        V|
   23+40       6.1037      0.59  |Q        |         |         |        V|
   23+45       6.1078      0.59  |Q        |         |         |        V|
   23+50       6.1119      0.59  |Q        |         |         |        V|
   23+55       6.1160      0.59  |Q        |         |         |        V|
   24+ 0       6.1201      0.59  |Q        |         |         |        V|
   24+ 5       6.1227      0.39  Q         |         |         |        V|
   24+10       6.1235      0.11  Q         |         |         |        V|
   24+15       6.1238      0.05  Q         |         |         |        V|
   24+20       6.1239      0.02  Q         |         |         |        V|
   24+25       6.1240      0.01  Q         |         |         |        V|
------------------------------------------------------------------------
```

# ATTACHMENT 5

Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 03/03/23

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225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
BASIN ROUTING
2-YEAR, 24-HOUR STORM
BY: JTS  DATE: 03-03-23
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Program License Serial Number 6320

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******************** HYDROGRAPH INFORMATION **********************

From study/file name: DEVHYD242.rte
*****************************HYDROGRAPH DATA*****************************
Number of intervals =   293
Time interval =    5.0 (Min.)
Maximum/Peak flow rate =        3.843 (CFS)
Total volume =       2.335 (Ac.Ft)
Status of hydrographs being held in storage

| | Stream 1 | Stream 2 | Stream 3 | Stream 4 | Stream 5 |
|---|---|---|---|---|---|
| Peak (CFS) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Vol (Ac.Ft) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**********

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       13.000 to Point/Station       15.000
**** RETARDING BASIN ROUTING ****
_____

Program computation of outflow v. depth

CALCULATED OUTFLOW DATA AT DEPTH =    0.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    1.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    2.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    3.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    4.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    5.50(Ft.))
Total outflow at this depth =      0.00(CFS)

```
CALCULATED OUTFLOW DATA AT DEPTH =    6.50(Ft.))
Total outflow at this depth =      0.00(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    6.95(Ft.))
Total outflow at this depth =      0.00(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    7.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
Calculated individual pipe flow  =     1.508(CFS)
Normal flow depth in pipe =    2.57(In.)
Flow top width inside pipe =    8.74(In.)
Critical Depth =    0.55(Ft.)
Calculated flow rate through pipe(s) =      1.508(CFS)

Total outflow at this depth =      1.51(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    8.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is      7.130(Ft.)
Pipe friction loss =      2.827(Ft.)
Minor friction loss =      4.307(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =      7.417(CFS)

Total outflow at this depth =      7.42(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    9.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is      8.130(Ft.)
Pipe friction loss =      3.223(Ft.)
Minor friction loss =      4.911(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =      7.920(CFS)

Total outflow at this depth =      7.92(CFS)

----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 293
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
----------------------------------------------------------------------
----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
----------------------------------------------------------------------
----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  0.500      0.092      0.000      0.092        0.092
  1.500      0.363      0.000      0.363        0.363
  2.500      0.698      0.000      0.698        0.698
  3.500      1.060      0.000      1.060        1.060
```

| | | | | |
|---|---|---|---|---|
| 4.500 | 1.436 | 0.000 | 1.436 | 1.436 |
| 5.500 | 1.812 | 0.000 | 1.812 | 1.812 |
| 6.500 | 2.083 | 0.000 | 2.083 | 2.083 |
| 6.950 | 2.247 | 0.000 | 2.247 | 2.247 |
| 7.500 | 2.509 | 1.508 | 2.504 | 2.514 |
| 8.500 | 2.780 | 7.417 | 2.754 | 2.806 |
| 9.500 | 2.964 | 7.920 | 2.937 | 2.991 |

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

| Time (Hours) | Inflow (CFS) | Outflow (CFS) | Storage (Ac.Ft) | .0 | 1.0 | 1.92 | 2.88 | 3.84 | Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0.083 | 0.08 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 0.167 | 0.18 | 0.00 | 0.001 | OI | \| | \| | \| | \| | 0.01 |
| 0.250 | 0.21 | 0.00 | 0.003 | OI | \| | \| | \| | \| | 0.01 |
| 0.333 | 0.26 | 0.00 | 0.004 | O I | \| | \| | \| | \| | 0.02 |
| 0.417 | 0.32 | 0.00 | 0.006 | O I | \| | \| | \| | \| | 0.03 |
| 0.500 | 0.33 | 0.00 | 0.008 | O I | \| | \| | \| | \| | 0.05 |
| 0.583 | 0.34 | 0.00 | 0.011 | O I | \| | \| | \| | \| | 0.06 |
| 0.667 | 0.34 | 0.00 | 0.013 | O I | \| | \| | \| | \| | 0.07 |
| 0.750 | 0.34 | 0.00 | 0.015 | O I | \| | \| | \| | \| | 0.08 |
| 0.833 | 0.38 | 0.00 | 0.018 | O I | \| | \| | \| | \| | 0.10 |
| 0.917 | 0.43 | 0.00 | 0.021 | O I | \| | \| | \| | \| | 0.11 |
| 1.000 | 0.44 | 0.00 | 0.024 | O I | \| | \| | \| | \| | 0.13 |
| 1.083 | 0.41 | 0.00 | 0.026 | O I | \| | \| | \| | \| | 0.14 |
| 1.167 | 0.36 | 0.00 | 0.029 | O I | \| | \| | \| | \| | 0.16 |
| 1.250 | 0.35 | 0.00 | 0.032 | O I | \| | \| | \| | \| | 0.17 |
| 1.333 | 0.34 | 0.00 | 0.034 | O I | \| | \| | \| | \| | 0.18 |
| 1.417 | 0.34 | 0.00 | 0.036 | O I | \| | \| | \| | \| | 0.20 |
| 1.500 | 0.34 | 0.00 | 0.039 | O I | \| | \| | \| | \| | 0.21 |
| 1.583 | 0.34 | 0.00 | 0.041 | O I | \| | \| | \| | \| | 0.22 |
| 1.667 | 0.34 | 0.00 | 0.043 | O I | \| | \| | \| | \| | 0.24 |
| 1.750 | 0.34 | 0.00 | 0.046 | O I | \| | \| | \| | \| | 0.25 |
| 1.833 | 0.38 | 0.00 | 0.048 | O I | \| | \| | \| | \| | 0.26 |
| 1.917 | 0.43 | 0.00 | 0.051 | O I | \| | \| | \| | \| | 0.28 |
| 2.000 | 0.44 | 0.00 | 0.054 | O I | \| | \| | \| | \| | 0.29 |
| 2.083 | 0.45 | 0.00 | 0.057 | O I | \| | \| | \| | \| | 0.31 |
| 2.167 | 0.45 | 0.00 | 0.060 | O I | \| | \| | \| | \| | 0.33 |
| 2.250 | 0.45 | 0.00 | 0.063 | O I | \| | \| | \| | \| | 0.34 |
| 2.333 | 0.45 | 0.00 | 0.066 | O I | \| | \| | \| | \| | 0.36 |
| 2.417 | 0.45 | 0.00 | 0.069 | O I | \| | \| | \| | \| | 0.38 |
| 2.500 | 0.45 | 0.00 | 0.073 | O I | \| | \| | \| | \| | 0.39 |
| 2.583 | 0.49 | 0.00 | 0.076 | O I | \| | \| | \| | \| | 0.41 |
| 2.667 | 0.54 | 0.00 | 0.079 | O I | \| | \| | \| | \| | 0.43 |
| 2.750 | 0.56 | 0.00 | 0.083 | O I | \| | \| | \| | \| | 0.45 |
| 2.833 | 0.56 | 0.00 | 0.087 | O I | \| | \| | \| | \| | 0.47 |
| 2.917 | 0.56 | 0.00 | 0.091 | O I | \| | \| | \| | \| | 0.49 |
| 3.000 | 0.57 | 0.00 | 0.095 | O I | \| | \| | \| | \| | 0.51 |
| 3.083 | 0.57 | 0.00 | 0.099 | O I | \| | \| | \| | \| | 0.52 |
| 3.167 | 0.57 | 0.00 | 0.103 | O I | \| | \| | \| | \| | 0.54 |
| 3.250 | 0.57 | 0.00 | 0.106 | O I | \| | \| | \| | \| | 0.55 |
| 3.333 | 0.57 | 0.00 | 0.110 | O I | \| | \| | \| | \| | 0.57 |
| 3.417 | 0.57 | 0.00 | 0.114 | O I | \| | \| | \| | \| | 0.58 |
| 3.500 | 0.57 | 0.00 | 0.118 | O I | \| | \| | \| | \| | 0.60 |
| 3.583 | 0.57 | 0.00 | 0.122 | O I | \| | \| | \| | \| | 0.61 |
| 3.667 | 0.57 | 0.00 | 0.126 | O I | \| | \| | \| | \| | 0.62 |
| 3.750 | 0.57 | 0.00 | 0.130 | O I | \| | \| | \| | \| | 0.64 |
| 3.833 | 0.60 | 0.00 | 0.134 | O I | \| | \| | \| | \| | 0.65 |
| 3.917 | 0.66 | 0.00 | 0.138 | O I | \| | \| | \| | \| | 0.67 |
| 4.000 | 0.67 | 0.00 | 0.143 | O I | \| | \| | \| | \| | 0.69 |
| 4.083 | 0.67 | 0.00 | 0.147 | O I | \| | \| | \| | \| | 0.70 |
| 4.167 | 0.68 | 0.00 | 0.152 | O I | \| | \| | \| | \| | 0.72 |
| 4.250 | 0.68 | 0.00 | 0.157 | O I | \| | \| | \| | \| | 0.74 |
| 4.333 | 0.72 | 0.00 | 0.161 | O I | \| | \| | \| | \| | 0.76 |
| 4.417 | 0.77 | 0.00 | 0.167 | O I | \| | \| | \| | \| | 0.78 |
| 4.500 | 0.78 | 0.00 | 0.172 | O I | \| | \| | \| | \| | 0.79 |

```
 4.583    0.79    0.00      0.177  O     I |       |       |       |     0.81
 4.667    0.79    0.00      0.183  O     I |       |       |       |     0.83
 4.750    0.79    0.00      0.188  O     I |       |       |       |     0.86
 4.833    0.83    0.00      0.194  O     I |       |       |       |     0.88
 4.917    0.88    0.00      0.200  O      I|       |       |       |     0.90
 5.000    0.90    0.00      0.206  O      I|       |       |       |     0.92
 5.083    0.82    0.00      0.212  O     I |       |       |       |     0.94
 5.167    0.72    0.00      0.217  O    I  |       |       |       |     0.96
 5.250    0.70    0.00      0.222  O    I  |       |       |       |     0.98
 5.333    0.72    0.00      0.227  O     I |       |       |       |     1.00
 5.417    0.77    0.00      0.232  O     I |       |       |       |     1.02
 5.500    0.78    0.00      0.237  O     I |       |       |       |     1.04
 5.583    0.83    0.00      0.243  O     I |       |       |       |     1.06
 5.667    0.88    0.00      0.249  O      I|       |       |       |     1.08
 5.750    0.90    0.00      0.255  O      I|       |       |       |     1.10
 5.833    0.90    0.00      0.261  O      I|       |       |       |     1.12
 5.917    0.90    0.00      0.267  O      I|       |       |       |     1.15
 6.000    0.90    0.00      0.273  O      I|       |       |       |     1.17
 6.083    0.94    0.00      0.280  O      I|       |       |       |     1.19
 6.167    1.00    0.00      0.287  O       I       |       |       |     1.22
 6.250    1.01    0.00      0.293  O       I       |       |       |     1.24
 6.333    1.01    0.00      0.300  O       I       |       |       |     1.27
 6.417    1.02    0.00      0.307  O       I       |       |       |     1.29
 6.500    1.02    0.00      0.314  O       I       |       |       |     1.32
 6.583    1.06    0.00      0.322  O       I       |       |       |     1.35
 6.667    1.11    0.00      0.329  O       |I      |       |       |     1.37
 6.750    1.12    0.00      0.337  O       |I      |       |       |     1.40
 6.833    1.13    0.00      0.344  O       |I      |       |       |     1.43
 6.917    1.13    0.00      0.352  O       |I      |       |       |     1.46
 7.000    1.13    0.00      0.360  O       |I      |       |       |     1.49
 7.083    1.13    0.00      0.368  O       |I      |       |       |     1.51
 7.167    1.13    0.00      0.376  O       |I      |       |       |     1.54
 7.250    1.13    0.00      0.383  O       |I      |       |       |     1.56
 7.333    1.17    0.00      0.391  O       |I      |       |       |     1.58
 7.417    1.22    0.00      0.399  O       | I     |       |       |     1.61
 7.500    1.23    0.00      0.408  O       | I     |       |       |     1.63
 7.583    1.28    0.00      0.417  O       | I     |       |       |     1.66
 7.667    1.33    0.00      0.426  O       |  I    |       |       |     1.69
 7.750    1.35    0.00      0.435  O       |  I    |       |       |     1.71
 7.833    1.39    0.00      0.444  O       |  I    |       |       |     1.74
 7.917    1.45    0.00      0.454  O       |   I   |       |       |     1.77
 8.000    1.46    0.00      0.464  O       |   I   |       |       |     1.80
 8.083    1.54    0.00      0.474  O       |   I   |       |       |     1.83
 8.167    1.65    0.00      0.485  O       |    I  |       |       |     1.87
 8.250    1.68    0.00      0.497  O       |    I  |       |       |     1.90
 8.333    1.69    0.00      0.508  O       |     I |       |       |     1.93
 8.417    1.69    0.00      0.520  O       |     I |       |       |     1.97
 8.500    1.70    0.00      0.532  O       |     I |       |       |     2.00
 8.583    1.73    0.00      0.544  O       |     I |       |       |     2.04
 8.667    1.79    0.00      0.556  O       |     I |       |       |     2.08
 8.750    1.80    0.00      0.568  O       |     I |       |       |     2.11
 8.833    1.84    0.00      0.581  O       |      I|       |       |     2.15
 8.917    1.90    0.00      0.593  O       |      I|       |       |     2.19
 9.000    1.91    0.00      0.607  O       |      I|       |       |     2.23
 9.083    2.00    0.00      0.620  O       |       I       |       |     2.27
 9.167    2.10    0.00      0.634  O       |       |I      |       |     2.31
 9.250    2.13    0.00      0.649  O       |       |I      |       |     2.35
 9.333    2.18    0.00      0.664  O       |       | I     |       |     2.40
 9.417    2.24    0.00      0.679  O       |       | I     |       |     2.44
 9.500    2.25    0.00      0.694  O       |       | I     |       |     2.49
 9.583    2.30    0.00      0.710  O       |       |  I    |       |     2.53
 9.667    2.35    0.00      0.726  O       |       |  I    |       |     2.58
 9.750    2.36    0.00      0.742  O       |       |  I    |       |     2.62
 9.833    2.41    0.00      0.759  O       |       |   I   |       |     2.67
 9.917    2.46    0.00      0.775  O       |       |   I   |       |     2.71
10.000    2.48    0.00      0.792  O       |       |   I   |       |     2.76
10.083    2.21    0.00      0.809  O       |       | I     |       |     2.81
10.167    1.84    0.00      0.822  O       |      I|       |       |     2.84
10.250    1.76    0.00      0.835  O       |     I |       |       |     2.88
```

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 10.333 | 1.72 | 0.00 | 0.847 | O | \| | I \| | \| | 2.91 |
| 10.417 | 1.70 | 0.00 | 0.859 | O | \| | I \| | \| | 2.94 |
| 10.500 | 1.70 | 0.00 | 0.870 | O | \| | I \| | \| | 2.98 |
| 10.583 | 1.89 | 0.00 | 0.883 | O | \| | I\| | \| | 3.01 |
| 10.667 | 2.16 | 0.00 | 0.897 | O | \| | \|I | \| | 3.05 |
| 10.750 | 2.22 | 0.00 | 0.912 | O | \| | \| I | \| | 3.09 |
| 10.833 | 2.24 | 0.00 | 0.927 | O | \| | \| I | \| | 3.13 |
| 10.917 | 2.26 | 0.00 | 0.943 | O | \| | \| I | \| | 3.18 |
| 11.000 | 2.26 | 0.00 | 0.958 | O | \| | \| I | \| | 3.22 |
| 11.083 | 2.22 | 0.00 | 0.973 | O | \| | \| I | \| | 3.26 |
| 11.167 | 2.17 | 0.00 | 0.989 | O | \| | \| I | \| | 3.30 |
| 11.250 | 2.16 | 0.00 | 1.003 | O | \| | \|I | \| | 3.34 |
| 11.333 | 2.15 | 0.00 | 1.018 | O | \| | \|I | \| | 3.38 |
| 11.417 | 2.15 | 0.00 | 1.033 | O | \| | \|I | \| | 3.43 |
| 11.500 | 2.15 | 0.00 | 1.048 | O | \| | \|I | \| | 3.47 |
| 11.583 | 2.07 | 0.00 | 1.062 | O | \| | \|I | \| | 3.51 |
| 11.667 | 1.96 | 0.00 | 1.076 | O | \| | I | \| | 3.54 |
| 11.750 | 1.94 | 0.00 | 1.090 | O | \| | I | \| | 3.58 |
| 11.833 | 1.97 | 0.00 | 1.103 | O | \| | I | \| | 3.61 |
| 11.917 | 2.02 | 0.00 | 1.117 | O | \| | I | \| | 3.65 |
| 12.000 | 2.03 | 0.00 | 1.131 | O | \| | I | \| | 3.69 |
| 12.083 | 2.31 | 0.00 | 1.146 | O | \| | \| I | \| | 3.73 |
| 12.167 | 2.68 | 0.00 | 1.163 | O | \| | \| I \| | \| | 3.77 |
| 12.250 | 2.76 | 0.00 | 1.182 | O | \| | \| I\| | \| | 3.82 |
| 12.333 | 2.84 | 0.00 | 1.201 | O | \| | \| I\| | \| | 3.87 |
| 12.417 | 2.91 | 0.00 | 1.221 | O | \| | \| I | \| | 3.93 |
| 12.500 | 2.93 | 0.00 | 1.241 | O | \| | \| I | \| | 3.98 |
| 12.583 | 3.01 | 0.00 | 1.261 | O | \| | \| \|I | \| | 4.04 |
| 12.667 | 3.12 | 0.00 | 1.282 | O | \| | \| \|I | \| | 4.09 |
| 12.750 | 3.15 | 0.00 | 1.304 | O | \| | \| \| I | \| | 4.15 |
| 12.833 | 3.20 | 0.00 | 1.326 | O | \| | \| \| I | \| | 4.21 |
| 12.917 | 3.25 | 0.00 | 1.348 | O | \| | \| \| I | \| | 4.27 |
| 13.000 | 3.27 | 0.00 | 1.371 | O | \| | \| \| I | \| | 4.33 |
| 13.083 | 3.47 | 0.00 | 1.394 | O | \| | \| \| I | \| | 4.39 |
| 13.167 | 3.74 | 0.00 | 1.419 | O | \| | \| \| \| I\| | 4.45 |
| 13.250 | 3.80 | 0.00 | 1.445 | O | \| | \| \| \| I\| | 4.52 |
| 13.333 | 3.82 | 0.00 | 1.471 | O | \| | \| \| \| I\| | 4.59 |
| 13.417 | 3.84 | 0.00 | 1.497 | O | \| | \| \| \| I\| | 4.66 |
| 13.500 | 3.84 | 0.00 | 1.524 | O | \| | \| \| \| I\| | 4.73 |
| 13.583 | 3.41 | 0.00 | 1.549 | O | \| | \| \| I \| | 4.80 |
| 13.667 | 2.83 | 0.00 | 1.570 | O | \| | \| I\| | \| | 4.86 |
| 13.750 | 2.70 | 0.00 | 1.589 | O | \| | \| I \| | \| | 4.91 |
| 13.833 | 2.64 | 0.00 | 1.607 | O | \| | \| I \| | \| | 4.96 |
| 13.917 | 2.61 | 0.00 | 1.626 | O | \| | \| I \| | \| | 5.00 |
| 14.000 | 2.60 | 0.00 | 1.643 | O | \| | \| I \| | \| | 5.05 |
| 14.083 | 2.76 | 0.00 | 1.662 | O | \| | \| I \| | \| | 5.10 |
| 14.167 | 2.97 | 0.00 | 1.682 | O | \| | \| I | \| | 5.15 |
| 14.250 | 3.02 | 0.00 | 1.702 | O | \| | \| \|I | \| | 5.21 |
| 14.333 | 3.00 | 0.00 | 1.723 | O | \| | \| I | \| | 5.26 |
| 14.417 | 2.96 | 0.00 | 1.743 | O | \| | \| I | \| | 5.32 |
| 14.500 | 2.95 | 0.00 | 1.764 | O | \| | \| I | \| | 5.37 |
| 14.583 | 2.94 | 0.00 | 1.784 | O | \| | \| I | \| | 5.43 |
| 14.667 | 2.94 | 0.00 | 1.804 | O | \| | \| I | \| | 5.48 |
| 14.750 | 2.94 | 0.00 | 1.825 | O | \| | \| I | \| | 5.55 |
| 14.833 | 2.90 | 0.00 | 1.845 | O | \| | \| I | \| | 5.62 |
| 14.917 | 2.85 | 0.00 | 1.864 | O | \| | \| I\| | \| | 5.69 |
| 15.000 | 2.83 | 0.00 | 1.884 | O | \| | \| I\| | \| | 5.77 |
| 15.083 | 2.79 | 0.00 | 1.903 | O | \| | \| I\| | \| | 5.84 |
| 15.167 | 2.73 | 0.00 | 1.922 | O | \| | \| I \| | \| | 5.91 |
| 15.250 | 2.72 | 0.00 | 1.941 | O | \| | \| I \| | \| | 5.98 |
| 15.333 | 2.68 | 0.00 | 1.960 | O | \| | \| I \| | \| | 6.05 |
| 15.417 | 2.62 | 0.00 | 1.978 | O | \| | \| I \| | \| | 6.11 |
| 15.500 | 2.61 | 0.00 | 1.996 | O | \| | \| I \| | \| | 6.18 |
| 15.583 | 2.45 | 0.00 | 2.013 | O | \| | \| I \| | \| | 6.24 |
| 15.667 | 2.23 | 0.00 | 2.030 | O | \| | \| I \| | \| | 6.30 |
| 15.750 | 2.18 | 0.00 | 2.045 | O | \| | \| I \| | \| | 6.36 |
| 15.833 | 2.16 | 0.00 | 2.060 | O | \| | \| I \| | \| | 6.41 |
| 15.917 | 2.15 | 0.00 | 2.075 | O | \| | \|I \| | \| | 6.47 |
| 16.000 | 2.15 | 0.00 | 2.089 | O | \| | \|I \| | \| | 6.52 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 16.083 | 1.56 | 0.00 | 2.102 | O | I | | | 6.55 |
| 16.167 | 0.77 | 0.00 | 2.110 | O I | | | | 6.57 |
| 16.250 | 0.59 | 0.00 | 2.115 | O I | | | | 6.59 |
| 16.333 | 0.51 | 0.00 | 2.119 | O I | | | | 6.60 |
| 16.417 | 0.47 | 0.00 | 2.122 | O I | | | | 6.61 |
| 16.500 | 0.45 | 0.00 | 2.125 | O I | | | | 6.62 |
| 16.583 | 0.41 | 0.00 | 2.128 | O I | | | | 6.62 |
| 16.667 | 0.36 | 0.00 | 2.131 | O I | | | | 6.63 |
| 16.750 | 0.35 | 0.00 | 2.133 | O I | | | | 6.64 |
| 16.833 | 0.34 | 0.00 | 2.135 | O I | | | | 6.64 |
| 16.917 | 0.34 | 0.00 | 2.138 | O I | | | | 6.65 |
| 17.000 | 0.34 | 0.00 | 2.140 | O I | | | | 6.66 |
| 17.083 | 0.42 | 0.00 | 2.143 | O I | | | | 6.66 |
| 17.167 | 0.52 | 0.00 | 2.146 | O I | | | | 6.67 |
| 17.250 | 0.55 | 0.00 | 2.150 | O I | | | | 6.68 |
| 17.333 | 0.56 | 0.00 | 2.154 | O I | | | | 6.69 |
| 17.417 | 0.56 | 0.00 | 2.157 | O I | | | | 6.70 |
| 17.500 | 0.57 | 0.00 | 2.161 | O I | | | | 6.71 |
| 17.583 | 0.57 | 0.00 | 2.165 | O I | | | | 6.73 |
| 17.667 | 0.57 | 0.00 | 2.169 | O I | | | | 6.74 |
| 17.750 | 0.57 | 0.00 | 2.173 | O I | | | | 6.75 |
| 17.833 | 0.53 | 0.00 | 2.177 | O I | | | | 6.76 |
| 17.917 | 0.47 | 0.00 | 2.180 | O I | | | | 6.77 |
| 18.000 | 0.46 | 0.00 | 2.183 | O I | | | | 6.78 |
| 18.083 | 0.46 | 0.00 | 2.186 | O I | | | | 6.78 |
| 18.167 | 0.45 | 0.00 | 2.190 | O I | | | | 6.79 |
| 18.250 | 0.45 | 0.00 | 2.193 | O I | | | | 6.80 |
| 18.333 | 0.45 | 0.00 | 2.196 | O I | | | | 6.81 |
| 18.417 | 0.45 | 0.00 | 2.199 | O I | | | | 6.82 |
| 18.500 | 0.45 | 0.00 | 2.202 | O I | | | | 6.83 |
| 18.583 | 0.41 | 0.00 | 2.205 | O I | | | | 6.83 |
| 18.667 | 0.36 | 0.00 | 2.208 | O I | | | | 6.84 |
| 18.750 | 0.35 | 0.00 | 2.210 | O I | | | | 6.85 |
| 18.833 | 0.30 | 0.00 | 2.212 | O I | | | | 6.86 |
| 18.917 | 0.25 | 0.00 | 2.214 | O I | | | | 6.86 |
| 19.000 | 0.23 | 0.00 | 2.216 | OI | | | | 6.86 |
| 19.083 | 0.27 | 0.00 | 2.218 | O I | | | | 6.87 |
| 19.167 | 0.32 | 0.00 | 2.220 | O I | | | | 6.88 |
| 19.250 | 0.33 | 0.00 | 2.222 | O I | | | | 6.88 |
| 19.333 | 0.37 | 0.00 | 2.224 | O I | | | | 6.89 |
| 19.417 | 0.43 | 0.00 | 2.227 | O I | | | | 6.90 |
| 19.500 | 0.44 | 0.00 | 2.230 | O I | | | | 6.90 |
| 19.583 | 0.41 | 0.00 | 2.233 | O I | | | | 6.91 |
| 19.667 | 0.36 | 0.00 | 2.236 | O I | | | | 6.92 |
| 19.750 | 0.35 | 0.00 | 2.238 | O I | | | | 6.93 |
| 19.833 | 0.30 | 0.00 | 2.240 | O I | | | | 6.93 |
| 19.917 | 0.25 | 0.00 | 2.242 | O I | | | | 6.94 |
| 20.000 | 0.23 | 0.00 | 2.244 | OI | | | | 6.94 |
| 20.083 | 0.27 | 0.00 | 2.246 | O I | | | | 6.95 |
| 20.167 | 0.32 | 0.00 | 2.248 | O I | | | | 6.95 |
| 20.250 | 0.33 | 0.02 | 2.250 | O I | | | | 6.96 |
| 20.333 | 0.34 | 0.03 | 2.252 | O I | | | | 6.96 |
| 20.417 | 0.34 | 0.04 | 2.254 | O I | | | | 6.96 |
| 20.500 | 0.34 | 0.05 | 2.256 | O I | | | | 6.97 |
| 20.583 | 0.34 | 0.06 | 2.258 | O I | | | | 6.97 |
| 20.667 | 0.34 | 0.07 | 2.260 | O I | | | | 6.98 |
| 20.750 | 0.34 | 0.08 | 2.262 | O I | | | | 6.98 |
| 20.833 | 0.30 | 0.09 | 2.263 | O I | | | | 6.98 |
| 20.917 | 0.25 | 0.10 | 2.264 | O I | | | | 6.99 |
| 21.000 | 0.23 | 0.11 | 2.265 | OI | | | | 6.99 |
| 21.083 | 0.27 | 0.11 | 2.266 | O I | | | | 6.99 |
| 21.167 | 0.32 | 0.12 | 2.268 | O I | | | | 6.99 |
| 21.250 | 0.33 | 0.13 | 2.269 | \|OI | | | | 7.00 |
| 21.333 | 0.30 | 0.13 | 2.270 | \|OI | | | | 7.00 |
| 21.417 | 0.25 | 0.14 | 2.271 | \|OI | | | | 7.00 |
| 21.500 | 0.23 | 0.14 | 2.272 | \|O | | | | 7.00 |
| 21.583 | 0.27 | 0.15 | 2.273 | \|OI | | | | 7.00 |
| 21.667 | 0.32 | 0.15 | 2.274 | \|OI | | | | 7.01 |
| 21.750 | 0.33 | 0.16 | 2.275 | \|OI | | | | 7.01 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21.833 | 0.30 | 0.17 | 2.276 | OI | | | | | 7.01 |
| 21.917 | 0.25 | 0.17 | 2.277 | OI | | | | | 7.01 |
| 22.000 | 0.23 | 0.17 | 2.277 | O | | | | | 7.01 |
| 22.083 | 0.27 | 0.18 | 2.278 | OI | | | | | 7.01 |
| 22.167 | 0.32 | 0.18 | 2.278 | OI | | | | | 7.02 |
| 22.250 | 0.33 | 0.19 | 2.279 | OI | | | | | 7.02 |
| 22.333 | 0.30 | 0.19 | 2.280 | OI | | | | | 7.02 |
| 22.417 | 0.25 | 0.19 | 2.281 | OI | | | | | 7.02 |
| 22.500 | 0.23 | 0.20 | 2.281 | O | | | | | 7.02 |
| 22.583 | 0.23 | 0.20 | 2.281 | O | | | | | 7.02 |
| 22.667 | 0.23 | 0.20 | 2.281 | O | | | | | 7.02 |
| 22.750 | 0.23 | 0.20 | 2.282 | O | | | | | 7.02 |
| 22.833 | 0.23 | 0.20 | 2.282 | O | | | | | 7.02 |
| 22.917 | 0.23 | 0.20 | 2.282 | O | | | | | 7.02 |
| 23.000 | 0.23 | 0.20 | 2.282 | O | | | | | 7.02 |
| 23.083 | 0.23 | 0.20 | 2.282 | O | | | | | 7.02 |
| 23.167 | 0.23 | 0.20 | 2.282 | O | | | | | 7.02 |
| 23.250 | 0.23 | 0.21 | 2.283 | O | | | | | 7.02 |
| 23.333 | 0.23 | 0.21 | 2.283 | O | | | | | 7.03 |
| 23.417 | 0.23 | 0.21 | 2.283 | O | | | | | 7.03 |
| 23.500 | 0.23 | 0.21 | 2.283 | O | | | | | 7.03 |
| 23.583 | 0.23 | 0.21 | 2.283 | O | | | | | 7.03 |
| 23.667 | 0.23 | 0.21 | 2.283 | O | | | | | 7.03 |
| 23.750 | 0.23 | 0.21 | 2.283 | O | | | | | 7.03 |
| 23.833 | 0.23 | 0.21 | 2.284 | O | | | | | 7.03 |
| 23.917 | 0.23 | 0.21 | 2.284 | O | | | | | 7.03 |
| 24.000 | 0.23 | 0.21 | 2.284 | O | | | | | 7.03 |
| 24.083 | 0.15 | 0.21 | 2.284 | O | | | | | 7.03 |
| 24.167 | 0.04 | 0.21 | 2.283 | IO | | | | | 7.03 |
| 24.250 | 0.02 | 0.20 | 2.282 | IO | | | | | 7.02 |
| 24.333 | 0.01 | 0.19 | 2.280 | IO | | | | | 7.02 |
| 24.417 | 0.00 | 0.18 | 2.279 | IO | | | | | 7.02 |
| 24.500 | 0.00 | 0.18 | 2.278 | IO | | | | | 7.01 |
| 24.583 | 0.00 | 0.17 | 2.277 | IO | | | | | 7.01 |
| 24.667 | 0.00 | 0.16 | 2.275 | IO | | | | | 7.01 |
| 24.750 | 0.00 | 0.16 | 2.274 | IO | | | | | 7.01 |
| 24.833 | 0.00 | 0.15 | 2.273 | IO | | | | | 7.01 |
| 24.917 | 0.00 | 0.15 | 2.272 | IO | | | | | 7.00 |
| 25.000 | 0.00 | 0.14 | 2.271 | IO | | | | | 7.00 |
| 25.083 | 0.00 | 0.13 | 2.270 | IO | | | | | 7.00 |
| 25.167 | 0.00 | 0.13 | 2.269 | IO | | | | | 7.00 |
| 25.250 | 0.00 | 0.12 | 2.269 | IO | | | | | 7.00 |
| 25.333 | 0.00 | 0.12 | 2.268 | O | | | | | 6.99 |
| 25.417 | 0.00 | 0.11 | 2.267 | O | | | | | 6.99 |
| 25.500 | 0.00 | 0.11 | 2.266 | O | | | | | 6.99 |
| 25.583 | 0.00 | 0.11 | 2.265 | O | | | | | 6.99 |
| 25.667 | 0.00 | 0.10 | 2.265 | O | | | | | 6.99 |
| 25.750 | 0.00 | 0.10 | 2.264 | O | | | | | 6.99 |
| 25.833 | 0.00 | 0.09 | 2.263 | O | | | | | 6.98 |
| 25.917 | 0.00 | 0.09 | 2.263 | O | | | | | 6.98 |
| 26.000 | 0.00 | 0.09 | 2.262 | O | | | | | 6.98 |
| 26.083 | 0.00 | 0.08 | 2.262 | O | | | | | 6.98 |
| 26.167 | 0.00 | 0.08 | 2.261 | O | | | | | 6.98 |
| 26.250 | 0.00 | 0.08 | 2.260 | O | | | | | 6.98 |
| 26.333 | 0.00 | 0.07 | 2.260 | O | | | | | 6.98 |
| 26.417 | 0.00 | 0.07 | 2.259 | O | | | | | 6.98 |
| 26.500 | 0.00 | 0.07 | 2.259 | O | | | | | 6.97 |
| 26.583 | 0.00 | 0.07 | 2.258 | O | | | | | 6.97 |
| 26.667 | 0.00 | 0.06 | 2.258 | O | | | | | 6.97 |
| 26.750 | 0.00 | 0.06 | 2.258 | O | | | | | 6.97 |
| 26.833 | 0.00 | 0.06 | 2.257 | O | | | | | 6.97 |
| 26.917 | 0.00 | 0.06 | 2.257 | O | | | | | 6.97 |
| 27.000 | 0.00 | 0.05 | 2.256 | O | | | | | 6.97 |
| 27.083 | 0.00 | 0.05 | 2.256 | O | | | | | 6.97 |
| 27.167 | 0.00 | 0.05 | 2.256 | O | | | | | 6.97 |
| 27.250 | 0.00 | 0.05 | 2.255 | O | | | | | 6.97 |
| 27.333 | 0.00 | 0.05 | 2.255 | O | | | | | 6.97 |
| 27.417 | 0.00 | 0.04 | 2.255 | O | | | | | 6.97 |
| 27.500 | 0.00 | 0.04 | 2.254 | O | | | | | 6.97 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 27.583 | 0.00 | 0.04 | 2.254 | O | | | | | 6.96 |
| 27.667 | 0.00 | 0.04 | 2.254 | O | | | | | 6.96 |
| 27.750 | 0.00 | 0.04 | 2.254 | O | | | | | 6.96 |
| 27.833 | 0.00 | 0.04 | 2.253 | O | | | | | 6.96 |
| 27.917 | 0.00 | 0.03 | 2.253 | O | | | | | 6.96 |
| 28.000 | 0.00 | 0.03 | 2.253 | O | | | | | 6.96 |
| 28.083 | 0.00 | 0.03 | 2.253 | O | | | | | 6.96 |
| 28.167 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 28.250 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 28.333 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 28.417 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 28.500 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 28.583 | 0.00 | 0.03 | 2.251 | O | | | | | 6.96 |
| 28.667 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 28.750 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 28.833 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 28.917 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 29.000 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 29.083 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 29.167 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 29.250 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 29.333 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 29.417 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 29.500 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 29.583 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 29.667 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 29.750 | 0.00 | 0.01 | 2.250 | O | | | | | 6.96 |
| 29.833 | 0.00 | 0.01 | 2.249 | O | | | | | 6.96 |
| 29.917 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.000 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.083 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.167 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.250 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.333 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.417 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.500 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.583 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.667 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.750 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.833 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 30.917 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.000 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.083 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.167 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.250 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.333 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.417 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.500 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.583 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.667 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.750 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.833 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 31.917 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.000 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.083 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 32.167 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 32.250 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 32.333 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 32.417 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 32.500 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 32.583 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 32.667 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 32.750 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 32.833 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 32.917 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 33.000 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 33.083 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 33.167 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 33.250 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 33.333 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 33.417 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 33.500 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 33.583 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 33.667 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 33.750 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 33.833 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 33.917 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.000 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.083 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.167 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.250 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.333 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.417 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.500 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.583 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.667 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.750 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.833 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.917 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.000 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.083 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.167 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.250 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.333 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.417 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |

Remaining water in basin = 2.25 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 425
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.211 (CFS)
Total volume = 0.088 (Ac.Ft)

Status of hydrographs being held in storage

| | Stream 1 | Stream 2 | Stream 3 | Stream 4 | Stream 5 |
|---|---|---|---|---|---|
| Peak (CFS) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Vol (Ac.Ft) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 03/03/23

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225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
BASIN ROUTING
5-YEAR, 24-HOUR STORM
BY: JTS  DATE: 03-03-23
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Program License Serial Number 6320

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******************** HYDROGRAPH INFORMATION **********************

From study/file name: devhyd245.rte
****************************HYDROGRAPH DATA****************************
Number of intervals =  293
Time interval =  5.0 (Min.)
Maximum/Peak flow rate =  5.303 (CFS)
Total volume =  3.223 (Ac.Ft)
Status of hydrographs being held in storage

| | Stream 1 | Stream 2 | Stream 3 | Stream 4 | Stream 5 |
|---|---|---|---|---|---|
| Peak (CFS) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Vol (Ac.Ft) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**********

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station  13.000 to Point/Station  15.000
**** RETARDING BASIN ROUTING ****
_____

Program computation of outflow v. depth

CALCULATED OUTFLOW DATA AT DEPTH =  0.50(Ft.))
Total outflow at this depth =  0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =  1.50(Ft.))
Total outflow at this depth =  0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =  2.50(Ft.))
Total outflow at this depth =  0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =  3.50(Ft.))
Total outflow at this depth =  0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =  4.50(Ft.))
Total outflow at this depth =  0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =  5.50(Ft.))
Total outflow at this depth =  0.00(CFS)

```
CALCULATED OUTFLOW DATA AT DEPTH =    6.50(Ft.))
Total outflow at this depth =      0.00(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    6.95(Ft.))
Total outflow at this depth =      0.00(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    7.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
Calculated individual pipe flow  =     1.508(CFS)
Normal flow depth in pipe =    2.57(In.)
Flow top width inside pipe =    8.74(In.)
Critical Depth =    0.55(Ft.)
Calculated flow rate through pipe(s) =      1.508(CFS)

Total outflow at this depth =      1.51(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    8.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is      7.130(Ft.)
Pipe friction loss =      2.827(Ft.)
Minor friction loss =      4.307(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =      7.417(CFS)

Total outflow at this depth =      7.42(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    9.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is      8.130(Ft.)
Pipe friction loss =      3.223(Ft.)
Minor friction loss =      4.911(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =      7.920(CFS)

Total outflow at this depth =      7.92(CFS)

----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 293
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
----------------------------------------------------------------------
----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
----------------------------------------------------------------------
----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  0.500      0.092      0.000      0.092        0.092
  1.500      0.363      0.000      0.363        0.363
  2.500      0.698      0.000      0.698        0.698
  3.500      1.060      0.000      1.060        1.060
```

| | | | | |
|---|---|---|---|---|
| 4.500 | 1.436 | 0.000 | 1.436 | 1.436 |
| 5.500 | 1.812 | 0.000 | 1.812 | 1.812 |
| 6.500 | 2.083 | 0.000 | 2.083 | 2.083 |
| 6.950 | 2.247 | 0.000 | 2.247 | 2.247 |
| 7.500 | 2.509 | 1.508 | 2.504 | 2.514 |
| 8.500 | 2.780 | 7.417 | 2.754 | 2.806 |
| 9.500 | 2.964 | 7.920 | 2.937 | 2.991 |

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

| Time (Hours) | Inflow (CFS) | Outflow (CFS) | Storage (Ac.Ft) | .0 1.3 2.65 3.98 5.30 | Depth (Ft.) |
|---|---|---|---|---|---|
| 0.083 | 0.11 | 0.00 | 0.000 | O \| \| \| \| | 0.00 |
| 0.167 | 0.25 | 0.00 | 0.002 | OI \| \| \| \| | 0.01 |
| 0.250 | 0.29 | 0.00 | 0.003 | OI \| \| \| \| | 0.02 |
| 0.333 | 0.36 | 0.00 | 0.006 | O I \| \| \| \| | 0.03 |
| 0.417 | 0.44 | 0.00 | 0.008 | O I \| \| \| \| | 0.05 |
| 0.500 | 0.46 | 0.00 | 0.012 | O I \| \| \| \| | 0.06 |
| 0.583 | 0.46 | 0.00 | 0.015 | O I \| \| \| \| | 0.08 |
| 0.667 | 0.47 | 0.00 | 0.018 | O I \| \| \| \| | 0.10 |
| 0.750 | 0.47 | 0.00 | 0.021 | O I \| \| \| \| | 0.11 |
| 0.833 | 0.52 | 0.00 | 0.024 | O I \| \| \| \| | 0.13 |
| 0.917 | 0.59 | 0.00 | 0.028 | O I \| \| \| \| | 0.15 |
| 1.000 | 0.61 | 0.00 | 0.032 | O I \| \| \| \| | 0.18 |
| 1.083 | 0.56 | 0.00 | 0.037 | O I \| \| \| \| | 0.20 |
| 1.167 | 0.50 | 0.00 | 0.040 | O I \| \| \| \| | 0.22 |
| 1.250 | 0.48 | 0.00 | 0.044 | O I \| \| \| \| | 0.24 |
| 1.333 | 0.47 | 0.00 | 0.047 | O I \| \| \| \| | 0.25 |
| 1.417 | 0.47 | 0.00 | 0.050 | O I \| \| \| \| | 0.27 |
| 1.500 | 0.47 | 0.00 | 0.053 | O I \| \| \| \| | 0.29 |
| 1.583 | 0.47 | 0.00 | 0.057 | O I \| \| \| \| | 0.31 |
| 1.667 | 0.47 | 0.00 | 0.060 | O I \| \| \| \| | 0.32 |
| 1.750 | 0.47 | 0.00 | 0.063 | O I \| \| \| \| | 0.34 |
| 1.833 | 0.52 | 0.00 | 0.066 | O I \| \| \| \| | 0.36 |
| 1.917 | 0.59 | 0.00 | 0.070 | O I \| \| \| \| | 0.38 |
| 2.000 | 0.61 | 0.00 | 0.074 | O I \| \| \| \| | 0.40 |
| 2.083 | 0.62 | 0.00 | 0.079 | O I \| \| \| \| | 0.43 |
| 2.167 | 0.62 | 0.00 | 0.083 | O I \| \| \| \| | 0.45 |
| 2.250 | 0.62 | 0.00 | 0.087 | O I \| \| \| \| | 0.47 |
| 2.333 | 0.62 | 0.00 | 0.091 | O I \| \| \| \| | 0.50 |
| 2.417 | 0.62 | 0.00 | 0.096 | O I \| \| \| \| | 0.51 |
| 2.500 | 0.62 | 0.00 | 0.100 | O I \| \| \| \| | 0.53 |
| 2.583 | 0.68 | 0.00 | 0.105 | O I \| \| \| \| | 0.55 |
| 2.667 | 0.75 | 0.00 | 0.109 | O I \| \| \| \| | 0.56 |
| 2.750 | 0.77 | 0.00 | 0.115 | O I \| \| \| \| | 0.58 |
| 2.833 | 0.77 | 0.00 | 0.120 | O I \| \| \| \| | 0.60 |
| 2.917 | 0.78 | 0.00 | 0.125 | O I \| \| \| \| | 0.62 |
| 3.000 | 0.78 | 0.00 | 0.131 | O I \| \| \| \| | 0.64 |
| 3.083 | 0.78 | 0.00 | 0.136 | O I \| \| \| \| | 0.66 |
| 3.167 | 0.78 | 0.00 | 0.141 | O I \| \| \| \| | 0.68 |
| 3.250 | 0.78 | 0.00 | 0.147 | O I \| \| \| \| | 0.70 |
| 3.333 | 0.78 | 0.00 | 0.152 | O I \| \| \| \| | 0.72 |
| 3.417 | 0.78 | 0.00 | 0.158 | O I \| \| \| \| | 0.74 |
| 3.500 | 0.78 | 0.00 | 0.163 | O I \| \| \| \| | 0.76 |
| 3.583 | 0.78 | 0.00 | 0.168 | O I \| \| \| \| | 0.78 |
| 3.667 | 0.78 | 0.00 | 0.174 | O I \| \| \| \| | 0.80 |
| 3.750 | 0.78 | 0.00 | 0.179 | O I \| \| \| \| | 0.82 |
| 3.833 | 0.83 | 0.00 | 0.185 | O I \| \| \| \| | 0.84 |
| 3.917 | 0.91 | 0.00 | 0.191 | O I \| \| \| \| | 0.86 |
| 4.000 | 0.92 | 0.00 | 0.197 | O I \| \| \| \| | 0.89 |
| 4.083 | 0.93 | 0.00 | 0.203 | O I \| \| \| \| | 0.91 |
| 4.167 | 0.93 | 0.00 | 0.210 | O I \| \| \| \| | 0.93 |
| 4.250 | 0.94 | 0.00 | 0.216 | O I \| \| \| \| | 0.96 |
| 4.333 | 0.99 | 0.00 | 0.223 | O I \| \| \| \| | 0.98 |
| 4.417 | 1.06 | 0.00 | 0.230 | O I \| \| \| \| | 1.01 |
| 4.500 | 1.08 | 0.00 | 0.237 | O I \| \| \| \| | 1.04 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.583 | 1.09 | 0.00 | 0.245 | O | I | \| | \| | \| | 1.06 |
| 4.667 | 1.09 | 0.00 | 0.252 | O | I | \| | \| | \| | 1.09 |
| 4.750 | 1.09 | 0.00 | 0.260 | O | I | \| | \| | \| | 1.12 |
| 4.833 | 1.15 | 0.00 | 0.267 | O | I | \| | \| | \| | 1.15 |
| 4.917 | 1.22 | 0.00 | 0.276 | O | I | \| | \| | \| | 1.18 |
| 5.000 | 1.24 | 0.00 | 0.284 | O | I | \| | \| | \| | 1.21 |
| 5.083 | 1.13 | 0.00 | 0.292 | O | I | \| | \| | \| | 1.24 |
| 5.167 | 0.99 | 0.00 | 0.300 | O | I | \| | \| | \| | 1.27 |
| 5.250 | 0.96 | 0.00 | 0.306 | O | I | \| | \| | \| | 1.29 |
| 5.333 | 1.00 | 0.00 | 0.313 | O | I | \| | \| | \| | 1.32 |
| 5.417 | 1.07 | 0.00 | 0.320 | O | I | \| | \| | \| | 1.34 |
| 5.500 | 1.08 | 0.00 | 0.328 | O | I | \| | \| | \| | 1.37 |
| 5.583 | 1.14 | 0.00 | 0.335 | O | I | \| | \| | \| | 1.40 |
| 5.667 | 1.22 | 0.00 | 0.343 | O | I | \| | \| | \| | 1.43 |
| 5.750 | 1.24 | 0.00 | 0.352 | O | I | \| | \| | \| | 1.46 |
| 5.833 | 1.24 | 0.00 | 0.360 | O | I | \| | \| | \| | 1.49 |
| 5.917 | 1.25 | 0.00 | 0.369 | O | I | \| | \| | \| | 1.52 |
| 6.000 | 1.25 | 0.00 | 0.377 | O | I | \| | \| | \| | 1.54 |
| 6.083 | 1.30 | 0.00 | 0.386 | O | I | \| | \| | \| | 1.57 |
| 6.167 | 1.37 | 0.00 | 0.395 | O | I | \| | \| | \| | 1.60 |
| 6.250 | 1.39 | 0.00 | 0.405 | O | I | \| | \| | \| | 1.63 |
| 6.333 | 1.40 | 0.00 | 0.415 | O | I | \| | \| | \| | 1.65 |
| 6.417 | 1.40 | 0.00 | 0.424 | O | I | \| | \| | \| | 1.68 |
| 6.500 | 1.40 | 0.00 | 0.434 | O | I | \| | \| | \| | 1.71 |
| 6.583 | 1.46 | 0.00 | 0.444 | O | I | \| | \| | \| | 1.74 |
| 6.667 | 1.53 | 0.00 | 0.454 | O | I | \| | \| | \| | 1.77 |
| 6.750 | 1.55 | 0.00 | 0.465 | O | I | \| | \| | \| | 1.80 |
| 6.833 | 1.55 | 0.00 | 0.475 | O | I | \| | \| | \| | 1.84 |
| 6.917 | 1.56 | 0.00 | 0.486 | O | I | \| | \| | \| | 1.87 |
| 7.000 | 1.56 | 0.00 | 0.497 | O | I | \| | \| | \| | 1.90 |
| 7.083 | 1.56 | 0.00 | 0.507 | O | I | \| | \| | \| | 1.93 |
| 7.167 | 1.56 | 0.00 | 0.518 | O | I | \| | \| | \| | 1.96 |
| 7.250 | 1.56 | 0.00 | 0.529 | O | I | \| | \| | \| | 2.00 |
| 7.333 | 1.61 | 0.00 | 0.540 | O | I | \| | \| | \| | 2.03 |
| 7.417 | 1.69 | 0.00 | 0.551 | O | I | \| | \| | \| | 2.06 |
| 7.500 | 1.70 | 0.00 | 0.563 | O | I | \| | \| | \| | 2.10 |
| 7.583 | 1.77 | 0.00 | 0.575 | O | I | \| | \| | \| | 2.13 |
| 7.667 | 1.84 | 0.00 | 0.587 | O | I | \| | \| | \| | 2.17 |
| 7.750 | 1.86 | 0.00 | 0.600 | O | I | \| | \| | \| | 2.21 |
| 7.833 | 1.92 | 0.00 | 0.613 | O | I | \| | \| | \| | 2.25 |
| 7.917 | 2.00 | 0.00 | 0.627 | O | I | \| | \| | \| | 2.29 |
| 8.000 | 2.02 | 0.00 | 0.640 | O | I | \| | \| | \| | 2.33 |
| 8.083 | 2.13 | 0.00 | 0.655 | O | I | \| | \| | \| | 2.37 |
| 8.167 | 2.28 | 0.00 | 0.670 | O | I | \| | \| | \| | 2.42 |
| 8.250 | 2.32 | 0.00 | 0.686 | O | I | \| | \| | \| | 2.46 |
| 8.333 | 2.33 | 0.00 | 0.702 | O | I | \| | \| | \| | 2.51 |
| 8.417 | 2.34 | 0.00 | 0.718 | O | I | \| | \| | \| | 2.55 |
| 8.500 | 2.34 | 0.00 | 0.734 | O | I | \| | \| | \| | 2.60 |
| 8.583 | 2.39 | 0.00 | 0.750 | O | I | \| | \| | \| | 2.64 |
| 8.667 | 2.47 | 0.00 | 0.767 | O | I | \| | \| | \| | 2.69 |
| 8.750 | 2.48 | 0.00 | 0.784 | O | I | \| | \| | \| | 2.74 |
| 8.833 | 2.55 | 0.00 | 0.801 | O | I | \| | \| | \| | 2.79 |
| 8.917 | 2.62 | 0.00 | 0.819 | O | I | \| | \| | \| | 2.83 |
| 9.000 | 2.64 | 0.00 | 0.837 | O | I | \| | \| | \| | 2.88 |
| 9.083 | 2.76 | 0.00 | 0.856 | O | I | \| | \| | \| | 2.94 |
| 9.167 | 2.90 | 0.00 | 0.875 | O | I | \| | \| | \| | 2.99 |
| 9.250 | 2.94 | 0.00 | 0.895 | O | I | \| | \| | \| | 3.05 |
| 9.333 | 3.01 | 0.00 | 0.916 | O | I | \| | \| | \| | 3.10 |
| 9.417 | 3.09 | 0.00 | 0.937 | O | I | \| | \| | \| | 3.16 |
| 9.500 | 3.11 | 0.00 | 0.958 | O | I | \| | \| | \| | 3.22 |
| 9.583 | 3.17 | 0.00 | 0.980 | O | I | \| | \| | \| | 3.28 |
| 9.667 | 3.24 | 0.00 | 1.002 | O | I | \| | \| | \| | 3.34 |
| 9.750 | 3.26 | 0.00 | 1.024 | O | I | \| | \| | \| | 3.40 |
| 9.833 | 3.32 | 0.00 | 1.047 | O | I | \| | \| | \| | 3.46 |
| 9.917 | 3.40 | 0.00 | 1.070 | O | I | \| | \| | \| | 3.53 |
| 10.000 | 3.42 | 0.00 | 1.094 | O | I | \| | \| | \| | 3.59 |
| 10.083 | 3.04 | 0.00 | 1.116 | O | I | \| | \| | \| | 3.65 |
| 10.167 | 2.54 | 0.00 | 1.135 | O | I | \| | \| | \| | 3.70 |
| 10.250 | 2.43 | 0.00 | 1.152 | O | I | \| | \| | \| | 3.75 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.333 | 2.37 | 0.00 | 1.169 | O | \| | I \| | \| | \| | 3.79 |
| 10.417 | 2.35 | 0.00 | 1.185 | O | \| | I \| | \| | \| | 3.83 |
| 10.500 | 2.34 | 0.00 | 1.201 | O | \| | I \| | \| | \| | 3.88 |
| 10.583 | 2.61 | 0.00 | 1.218 | O | \| | I\| | \| | \| | 3.92 |
| 10.667 | 2.97 | 0.00 | 1.237 | O | \| | \|I | \| | \| | 3.97 |
| 10.750 | 3.06 | 0.00 | 1.258 | O | \| | \| I | \| | \| | 4.03 |
| 10.833 | 3.09 | 0.00 | 1.279 | O | \| | \| I | \| | \| | 4.08 |
| 10.917 | 3.11 | 0.00 | 1.301 | O | \| | \| I | \| | \| | 4.14 |
| 11.000 | 3.12 | 0.00 | 1.322 | O | \| | \| I | \| | \| | 4.20 |
| 11.083 | 3.06 | 0.00 | 1.343 | O | \| | \| I | \| | \| | 4.25 |
| 11.167 | 2.99 | 0.00 | 1.364 | O | \| | \| I | \| | \| | 4.31 |
| 11.250 | 2.98 | 0.00 | 1.385 | O | \| | \|I | \| | \| | 4.36 |
| 11.333 | 2.97 | 0.00 | 1.405 | O | \| | \|I | \| | \| | 4.42 |
| 11.417 | 2.96 | 0.00 | 1.426 | O | \| | \|I | \| | \| | 4.47 |
| 11.500 | 2.96 | 0.00 | 1.446 | O | \| | \|I | \| | \| | 4.53 |
| 11.583 | 2.85 | 0.00 | 1.466 | O | \| | \|I | \| | \| | 4.58 |
| 11.667 | 2.71 | 0.00 | 1.485 | O | \| | I | \| | \| | 4.63 |
| 11.750 | 2.68 | 0.00 | 1.504 | O | \| | I | \| | \| | 4.68 |
| 11.833 | 2.72 | 0.00 | 1.522 | O | \| | I | \| | \| | 4.73 |
| 11.917 | 2.78 | 0.00 | 1.541 | O | \| | I | \| | \| | 4.78 |
| 12.000 | 2.80 | 0.00 | 1.561 | O | \| | I | \| | \| | 4.83 |
| 12.083 | 3.18 | 0.00 | 1.581 | O | \| | \| I | \| | \| | 4.89 |
| 12.167 | 3.69 | 0.00 | 1.605 | O | \| | \| I \| | \| | 4.95 |
| 12.250 | 3.81 | 0.00 | 1.631 | O | \| | \| I\| | \| | 5.02 |
| 12.333 | 3.92 | 0.00 | 1.657 | O | \| | \| I\| | \| | 5.09 |
| 12.417 | 4.02 | 0.00 | 1.685 | O | \| | \| I | \| | 5.16 |
| 12.500 | 4.04 | 0.00 | 1.712 | O | \| | \| I | \| | 5.24 |
| 12.583 | 4.16 | 0.00 | 1.741 | O | \| | \| \|I | \| | 5.31 |
| 12.667 | 4.31 | 0.00 | 1.770 | O | \| | \| \|I | \| | 5.39 |
| 12.750 | 4.34 | 0.00 | 1.800 | O | \| | \| \| I | \| | 5.47 |
| 12.833 | 4.41 | 0.00 | 1.830 | O | \| | \| \| I | \| | 5.57 |
| 12.917 | 4.49 | 0.00 | 1.860 | O | \| | \| \| I | \| | 5.68 |
| 13.000 | 4.51 | 0.00 | 1.891 | O | \| | \| \| I | \| | 5.79 |
| 13.083 | 4.79 | 0.00 | 1.923 | O | \| | \| \| I | \| | 5.91 |
| 13.167 | 5.16 | 0.00 | 1.958 | O | \| | \| \| \| I\| | 6.04 |
| 13.250 | 5.24 | 0.00 | 1.994 | O | \| | \| \| \| I\| | 6.17 |
| 13.333 | 5.28 | 0.00 | 2.030 | O | \| | \| \| \| I\| | 6.30 |
| 13.417 | 5.30 | 0.00 | 2.066 | O | \| | \| \| \| I\| | 6.44 |
| 13.500 | 5.30 | 0.00 | 2.103 | O | \| | \| \| \| I\| | 6.55 |
| 13.583 | 4.70 | 0.00 | 2.137 | O | \| | \| \| I | \| | 6.65 |
| 13.667 | 3.91 | 0.00 | 2.167 | O | \| | \| I\| | \| | 6.73 |
| 13.750 | 3.72 | 0.00 | 2.193 | O | \| | \| I \| | \| | 6.80 |
| 13.833 | 3.64 | 0.00 | 2.218 | O | \| | \| I \| | \| | 6.87 |
| 13.917 | 3.60 | 0.00 | 2.243 | O | \| | \| I \| | \| | 6.94 |
| 14.000 | 3.59 | 0.12 | 2.268 | O | \| | \| I \| | \| | 6.99 |
| 14.083 | 3.81 | 0.26 | 2.292 | \|O | \| | \| I \| | \| | 7.04 |
| 14.167 | 4.10 | 0.40 | 2.317 | \| O | \| | \| I | \| | 7.10 |
| 14.250 | 4.16 | 0.55 | 2.342 | \| O | \| | \| \|I | \| | 7.15 |
| 14.333 | 4.14 | 0.69 | 2.366 | \| O | \| | \| I | \| | 7.20 |
| 14.417 | 4.08 | 0.82 | 2.389 | \| O | \| | \| I | \| | 7.25 |
| 14.500 | 4.07 | 0.95 | 2.411 | \| O | \| | \| I | \| | 7.30 |
| 14.583 | 4.06 | 1.07 | 2.432 | \| O | \| | \| I | \| | 7.34 |
| 14.667 | 4.06 | 1.18 | 2.453 | \| O\| | \| | \| I | \| | 7.38 |
| 14.750 | 4.06 | 1.30 | 2.472 | \| O\| | \| | \| I | \| | 7.42 |
| 14.833 | 4.00 | 1.40 | 2.490 | \| O | \| | \| I | \| | 7.46 |
| 14.917 | 3.93 | 1.50 | 2.508 | \| \|O | \| | \| I\| | \| | 7.50 |
| 15.000 | 3.91 | 1.82 | 2.523 | \| \| O | \| | \| I\| | \| | 7.55 |
| 15.083 | 3.85 | 2.11 | 2.537 | \| \| O | \| | \| I\| | \| | 7.60 |
| 15.167 | 3.77 | 2.35 | 2.547 | \| \| O \| | \| I \| | \| | 7.64 |
| 15.250 | 3.76 | 2.54 | 2.557 | \| \| O\| | \| I \| | \| | 7.68 |
| 15.333 | 3.69 | 2.71 | 2.564 | \| \| O | \| I \| | \| | 7.70 |
| 15.417 | 3.62 | 2.84 | 2.570 | \| \| \|O | I \| | \| | 7.73 |
| 15.500 | 3.60 | 2.95 | 2.575 | \| \| \|O | I \| | \| | 7.74 |
| 15.583 | 3.37 | 3.02 | 2.579 | \| \| \| O I | \| | \| | 7.76 |
| 15.667 | 3.08 | 3.05 | 2.580 | \| \| \| O | \| | \| | 7.76 |
| 15.750 | 3.01 | 3.05 | 2.580 | \| \| \| O | \| | \| | 7.76 |
| 15.833 | 2.98 | 3.04 | 2.579 | \| \| \| O | \| | \| | 7.76 |
| 15.917 | 2.97 | 3.03 | 2.579 | \| \| \|IO | \| | \| | 7.76 |
| 16.000 | 2.96 | 3.02 | 2.579 | \| \| \|IO | \| | \| | 7.76 |

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16.083    2.15    2.96      2.576  |        |   I   |O      |        |     7.75
16.167    1.06    2.77      2.567  |     I  |       O       |        |     7.71
16.250    0.81    2.51      2.555  |   I    |      O|       |        |     7.67
16.333    0.70    2.27      2.544  |   I    |    O  |       |        |     7.63
16.417    0.65    2.04      2.534  |  I     |   O   |       |        |     7.59
16.500    0.62    1.85      2.525  |  I     |  O    |       |        |     7.56
16.583    0.57    1.67      2.517  |  I     | O     |       |        |     7.53
16.667    0.50    1.51      2.509  | I      |O      |       |        |     7.50
16.750    0.48    1.47      2.502  | I     O       |       |        |     7.49
16.833    0.47    1.43      2.496  | I     O       |       |        |     7.47
16.917    0.47    1.39      2.489  | I     O       |       |        |     7.46
17.000    0.47    1.36      2.483  | I     O       |       |        |     7.45
17.083    0.58    1.33      2.477  |  I   O|       |       |        |     7.43
17.167    0.72    1.30      2.473  |   I  O|       |       |        |     7.42
17.250    0.76    1.28      2.469  |   I  O|       |       |        |     7.42
17.333    0.77    1.26      2.465  |   I  O|       |       |        |     7.41
17.417    0.78    1.24      2.462  |   I  O|       |       |        |     7.40
17.500    0.78    1.22      2.459  |   I  O|       |       |        |     7.40
17.583    0.78    1.20      2.456  |   I  O|       |       |        |     7.39
17.667    0.78    1.19      2.453  |   I  O|       |       |        |     7.38
17.750    0.78    1.17      2.450  |   I  O|       |       |        |     7.38
17.833    0.73    1.16      2.448  |   I O |       |       |        |     7.37
17.917    0.65    1.14      2.444  |  I  O |       |       |        |     7.36
18.000    0.64    1.12      2.441  |  I  O |       |       |        |     7.36
18.083    0.63    1.10      2.438  |  I  O |       |       |        |     7.35
18.167    0.63    1.08      2.435  |  I  O |       |       |        |     7.34
18.250    0.62    1.06      2.432  |  I  O |       |       |        |     7.34
18.333    0.62    1.05      2.429  |  I  O |       |       |        |     7.33
18.417    0.62    1.03      2.426  |  I  O |       |       |        |     7.33
18.500    0.62    1.01      2.423  |  I  O |       |       |        |     7.32
18.583    0.57    1.00      2.420  |  I  O |       |       |        |     7.31
18.667    0.50    0.98      2.417  | I  O  |       |       |        |     7.31
18.750    0.48    0.96      2.414  | I  O  |       |       |        |     7.30
18.833    0.42    0.94      2.410  | I  O  |       |       |        |     7.29
18.917    0.34    0.92      2.407  | I  O  |       |       |        |     7.28
19.000    0.32    0.90      2.403  |I   O  |       |       |        |     7.28
19.083    0.37    0.87      2.399  | I  O  |       |       |        |     7.27
19.167    0.44    0.86      2.396  | I  O  |       |       |        |     7.26
19.250    0.46    0.84      2.393  | I  O  |       |       |        |     7.26
19.333    0.52    0.83      2.391  |  IO   |       |       |        |     7.25
19.417    0.59    0.82      2.389  |  IO   |       |       |        |     7.25
19.500    0.61    0.81      2.387  |  IO   |       |       |        |     7.24
19.583    0.56    0.80      2.386  |  IO   |       |       |        |     7.24
19.667    0.50    0.79      2.384  | I O   |       |       |        |     7.24
19.750    0.48    0.78      2.382  | I O   |       |       |        |     7.23
19.833    0.42    0.76      2.380  | I O   |       |       |        |     7.23
19.917    0.34    0.75      2.377  | I O   |       |       |        |     7.22
20.000    0.32    0.73      2.374  |I  O   |       |       |        |     7.22
20.083    0.37    0.72      2.372  | I O   |       |       |        |     7.21
20.167    0.44    0.71      2.370  | I O   |       |       |        |     7.21
20.250    0.46    0.70      2.368  | I O   |       |       |        |     7.20
20.333    0.46    0.69      2.366  | I O   |       |       |        |     7.20
20.417    0.47    0.68      2.365  | I O   |       |       |        |     7.20
20.500    0.47    0.67      2.363  | I O   |       |       |        |     7.19
20.583    0.47    0.66      2.362  | IO    |       |       |        |     7.19
20.667    0.47    0.65      2.361  | IO    |       |       |        |     7.19
20.750    0.47    0.65      2.359  | IO    |       |       |        |     7.19
20.833    0.41    0.64      2.358  | IO    |       |       |        |     7.18
20.917    0.34    0.63      2.356  | IO    |       |       |        |     7.18
21.000    0.32    0.62      2.354  |I O    |       |       |        |     7.18
21.083    0.37    0.61      2.352  | IO    |       |       |        |     7.17
21.167    0.44    0.60      2.351  | IO    |       |       |        |     7.17
21.250    0.46    0.59      2.350  | IO    |       |       |        |     7.17
21.333    0.41    0.59      2.349  | IO    |       |       |        |     7.16
21.417    0.34    0.58      2.348  | IO    |       |       |        |     7.16
21.500    0.32    0.57      2.346  |I O    |       |       |        |     7.16
21.583    0.37    0.56      2.344  | IO    |       |       |        |     7.15
21.667    0.44    0.55      2.343  | IO    |       |       |        |     7.15
21.750    0.46    0.55      2.343  | IO    |       |       |        |     7.15
```

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 21.833 | 0.41 | 0.55 | 2.342 | \| IO | \| | \| | \| | 7.15 |
| 21.917 | 0.34 | 0.54 | 2.341 | \| IO | \| | \| | \| | 7.15 |
| 22.000 | 0.32 | 0.53 | 2.339 | \|I O | \| | \| | \| | 7.14 |
| 22.083 | 0.37 | 0.52 | 2.338 | \| IO | \| | \| | \| | 7.14 |
| 22.167 | 0.44 | 0.52 | 2.337 | \| IO | \| | \| | \| | 7.14 |
| 22.250 | 0.46 | 0.52 | 2.337 | \| IO | \| | \| | \| | 7.14 |
| 22.333 | 0.41 | 0.51 | 2.336 | \| IO | \| | \| | \| | 7.14 |
| 22.417 | 0.34 | 0.51 | 2.335 | \| IO | \| | \| | \| | 7.14 |
| 22.500 | 0.32 | 0.50 | 2.334 | \|I O | \| | \| | \| | 7.13 |
| 22.583 | 0.32 | 0.49 | 2.333 | \|IO | \| | \| | \| | 7.13 |
| 22.667 | 0.31 | 0.49 | 2.332 | \|IO | \| | \| | \| | 7.13 |
| 22.750 | 0.31 | 0.48 | 2.330 | \|IO | \| | \| | \| | 7.13 |
| 22.833 | 0.31 | 0.47 | 2.329 | \|IO | \| | \| | \| | 7.12 |
| 22.917 | 0.31 | 0.47 | 2.328 | \|IO | \| | \| | \| | 7.12 |
| 23.000 | 0.31 | 0.46 | 2.327 | \|IO | \| | \| | \| | 7.12 |
| 23.083 | 0.31 | 0.46 | 2.326 | \|IO | \| | \| | \| | 7.12 |
| 23.167 | 0.31 | 0.45 | 2.325 | \|IO | \| | \| | \| | 7.11 |
| 23.250 | 0.31 | 0.44 | 2.324 | \|IO | \| | \| | \| | 7.11 |
| 23.333 | 0.31 | 0.44 | 2.323 | \|IO | \| | \| | \| | 7.11 |
| 23.417 | 0.31 | 0.43 | 2.322 | \|IO | \| | \| | \| | 7.11 |
| 23.500 | 0.31 | 0.43 | 2.322 | \|IO | \| | \| | \| | 7.11 |
| 23.583 | 0.31 | 0.43 | 2.321 | \|IO | \| | \| | \| | 7.11 |
| 23.667 | 0.31 | 0.42 | 2.320 | \|IO | \| | \| | \| | 7.10 |
| 23.750 | 0.31 | 0.42 | 2.319 | \|IO | \| | \| | \| | 7.10 |
| 23.833 | 0.31 | 0.41 | 2.319 | \|IO | \| | \| | \| | 7.10 |
| 23.917 | 0.31 | 0.41 | 2.318 | \|IO | \| | \| | \| | 7.10 |
| 24.000 | 0.31 | 0.40 | 2.317 | \|IO | \| | \| | \| | 7.10 |
| 24.083 | 0.20 | 0.40 | 2.316 | \|IO | \| | \| | \| | 7.10 |
| 24.167 | 0.06 | 0.39 | 2.315 | I O | \| | \| | \| | 7.09 |
| 24.250 | 0.02 | 0.38 | 2.312 | I O | \| | \| | \| | 7.09 |
| 24.333 | 0.01 | 0.36 | 2.310 | I O | \| | \| | \| | 7.08 |
| 24.417 | 0.00 | 0.35 | 2.307 | I O | \| | \| | \| | 7.08 |
| 24.500 | 0.00 | 0.33 | 2.305 | I O | \| | \| | \| | 7.07 |
| 24.583 | 0.00 | 0.32 | 2.303 | IO | \| | \| | \| | 7.07 |
| 24.667 | 0.00 | 0.31 | 2.301 | IO | \| | \| | \| | 7.06 |
| 24.750 | 0.00 | 0.30 | 2.298 | IO | \| | \| | \| | 7.06 |
| 24.833 | 0.00 | 0.28 | 2.296 | IO | \| | \| | \| | 7.05 |
| 24.917 | 0.00 | 0.27 | 2.295 | IO | \| | \| | \| | 7.05 |
| 25.000 | 0.00 | 0.26 | 2.293 | IO | \| | \| | \| | 7.05 |
| 25.083 | 0.00 | 0.25 | 2.291 | IO | \| | \| | \| | 7.04 |
| 25.167 | 0.00 | 0.24 | 2.289 | IO | \| | \| | \| | 7.04 |
| 25.250 | 0.00 | 0.23 | 2.288 | IO | \| | \| | \| | 7.04 |
| 25.333 | 0.00 | 0.22 | 2.286 | IO | \| | \| | \| | 7.03 |
| 25.417 | 0.00 | 0.22 | 2.284 | IO | \| | \| | \| | 7.03 |
| 25.500 | 0.00 | 0.21 | 2.283 | IO | \| | \| | \| | 7.03 |
| 25.583 | 0.00 | 0.20 | 2.282 | IO | \| | \| | \| | 7.02 |
| 25.667 | 0.00 | 0.19 | 2.280 | IO | \| | \| | \| | 7.02 |
| 25.750 | 0.00 | 0.18 | 2.279 | IO | \| | \| | \| | 7.02 |
| 25.833 | 0.00 | 0.18 | 2.278 | IO | \| | \| | \| | 7.01 |
| 25.917 | 0.00 | 0.17 | 2.277 | IO | \| | \| | \| | 7.01 |
| 26.000 | 0.00 | 0.16 | 2.275 | O | \| | \| | \| | 7.01 |
| 26.083 | 0.00 | 0.16 | 2.274 | O | \| | \| | \| | 7.01 |
| 26.167 | 0.00 | 0.15 | 2.273 | O | \| | \| | \| | 7.01 |
| 26.250 | 0.00 | 0.15 | 2.272 | O | \| | \| | \| | 7.00 |
| 26.333 | 0.00 | 0.14 | 2.271 | O | \| | \| | \| | 7.00 |
| 26.417 | 0.00 | 0.13 | 2.270 | O | \| | \| | \| | 7.00 |
| 26.500 | 0.00 | 0.13 | 2.269 | O | \| | \| | \| | 7.00 |
| 26.583 | 0.00 | 0.12 | 2.269 | O | \| | \| | \| | 7.00 |
| 26.667 | 0.00 | 0.12 | 2.268 | O | \| | \| | \| | 6.99 |
| 26.750 | 0.00 | 0.11 | 2.267 | O | \| | \| | \| | 6.99 |
| 26.833 | 0.00 | 0.11 | 2.266 | O | \| | \| | \| | 6.99 |
| 26.917 | 0.00 | 0.11 | 2.265 | O | \| | \| | \| | 6.99 |
| 27.000 | 0.00 | 0.10 | 2.265 | O | \| | \| | \| | 6.99 |
| 27.083 | 0.00 | 0.10 | 2.264 | O | \| | \| | \| | 6.99 |
| 27.167 | 0.00 | 0.09 | 2.263 | O | \| | \| | \| | 6.98 |
| 27.250 | 0.00 | 0.09 | 2.263 | O | \| | \| | \| | 6.98 |
| 27.333 | 0.00 | 0.09 | 2.262 | O | \| | \| | \| | 6.98 |
| 27.417 | 0.00 | 0.08 | 2.261 | O | \| | \| | \| | 6.98 |
| 27.500 | 0.00 | 0.08 | 2.261 | O | \| | \| | \| | 6.98 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 27.583 | 0.00 | 0.08 | 2.260 | O | | | | | 6.98 |
| 27.667 | 0.00 | 0.07 | 2.260 | O | | | | | 6.98 |
| 27.750 | 0.00 | 0.07 | 2.259 | O | | | | | 6.98 |
| 27.833 | 0.00 | 0.07 | 2.259 | O | | | | | 6.97 |
| 27.917 | 0.00 | 0.07 | 2.258 | O | | | | | 6.97 |
| 28.000 | 0.00 | 0.06 | 2.258 | O | | | | | 6.97 |
| 28.083 | 0.00 | 0.06 | 2.258 | O | | | | | 6.97 |
| 28.167 | 0.00 | 0.06 | 2.257 | O | | | | | 6.97 |
| 28.250 | 0.00 | 0.06 | 2.257 | O | | | | | 6.97 |
| 28.333 | 0.00 | 0.05 | 2.256 | O | | | | | 6.97 |
| 28.417 | 0.00 | 0.05 | 2.256 | O | | | | | 6.97 |
| 28.500 | 0.00 | 0.05 | 2.256 | O | | | | | 6.97 |
| 28.583 | 0.00 | 0.05 | 2.255 | O | | | | | 6.97 |
| 28.667 | 0.00 | 0.05 | 2.255 | O | | | | | 6.97 |
| 28.750 | 0.00 | 0.04 | 2.255 | O | | | | | 6.97 |
| 28.833 | 0.00 | 0.04 | 2.254 | O | | | | | 6.97 |
| 28.917 | 0.00 | 0.04 | 2.254 | O | | | | | 6.96 |
| 29.000 | 0.00 | 0.04 | 2.254 | O | | | | | 6.96 |
| 29.083 | 0.00 | 0.04 | 2.254 | O | | | | | 6.96 |
| 29.167 | 0.00 | 0.04 | 2.253 | O | | | | | 6.96 |
| 29.250 | 0.00 | 0.03 | 2.253 | O | | | | | 6.96 |
| 29.333 | 0.00 | 0.03 | 2.253 | O | | | | | 6.96 |
| 29.417 | 0.00 | 0.03 | 2.253 | O | | | | | 6.96 |
| 29.500 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 29.583 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 29.667 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 29.750 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 29.833 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 29.917 | 0.00 | 0.03 | 2.251 | O | | | | | 6.96 |
| 30.000 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 30.083 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 30.167 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 30.250 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 30.333 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 30.417 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 30.500 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 30.583 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 30.667 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 30.750 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 30.833 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 30.917 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 31.000 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 31.083 | 0.00 | 0.01 | 2.250 | O | | | | | 6.96 |
| 31.167 | 0.00 | 0.01 | 2.249 | O | | | | | 6.96 |
| 31.250 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.333 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.417 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.500 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.583 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.667 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.750 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.833 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.917 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.000 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.083 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.167 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.250 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.333 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.417 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.500 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.583 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.667 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.750 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.833 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.917 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 33.000 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 33.083 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 33.167 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 33.250 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 33.333 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.417 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.500 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.583 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.667 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.750 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.833 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.917 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.000 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.083 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.167 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.250 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.333 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.417 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.500 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.583 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.667 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.750 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.833 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 34.917 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.000 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.083 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.167 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.250 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.333 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.417 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.500 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.583 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.667 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.750 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.833 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.917 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.000 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.083 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.167 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.250 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.333 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.417 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.500 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.583 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.667 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.750 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |

Remaining water in basin = 2.25 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 441
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 3.052 (CFS)
Total volume = 0.975 (Ac.Ft)

Status of hydrographs being held in storage

| | Stream 1 | Stream 2 | Stream 3 | Stream 4 | Stream 5 |
|---|---|---|---|---|---|
| Peak (CFS) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Vol (Ac.Ft) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 03/03/23

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225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
BASIN ROUTING
10-YEAR, 24-HOUR STORM
BY: JTS  DATE: 03-03-23
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Program License Serial Number 6320

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******************** HYDROGRAPH INFORMATION **********************

From study/file name: devhyd2410.rte
****************************HYDROGRAPH DATA****************************
Number of intervals =   293
Time interval =    5.0 (Min.)
Maximum/Peak flow rate =        6.408 (CFS)
Total volume =       3.894 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
Peak (CFS)      0.000     0.000     0.000     0.000     0.000
Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
**********************************************************************

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       13.000 to Point/Station       15.000
**** RETARDING BASIN ROUTING ****
_____

Program computation of outflow v. depth

CALCULATED OUTFLOW DATA AT DEPTH =    0.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    1.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    2.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    3.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    4.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    5.50(Ft.))
Total outflow at this depth =      0.00(CFS)

```
CALCULATED OUTFLOW DATA AT DEPTH =    6.50(Ft.))
Total outflow at this depth =      0.00(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    6.95(Ft.))
Total outflow at this depth =      0.00(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    7.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
Calculated individual pipe flow  =     1.508(CFS)
Normal flow depth in pipe =    2.57(In.)
Flow top width inside pipe =    8.74(In.)
Critical Depth =    0.55(Ft.)
Calculated flow rate through pipe(s) =      1.508(CFS)

Total outflow at this depth =      1.51(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    8.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is      7.130(Ft.)
Pipe friction loss =      2.827(Ft.)
Minor friction loss =      4.307(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =      7.417(CFS)

Total outflow at this depth =      7.42(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    9.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is      8.130(Ft.)
Pipe friction loss =      3.223(Ft.)
Minor friction loss =      4.911(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =      7.920(CFS)

Total outflow at this depth =      7.92(CFS)

----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 293
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
----------------------------------------------------------------------
----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
----------------------------------------------------------------------
----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  0.500      0.092      0.000      0.092        0.092
  1.500      0.363      0.000      0.363        0.363
  2.500      0.698      0.000      0.698        0.698
  3.500      1.060      0.000      1.060        1.060
```

| | | | | |
|---|---|---|---|---|
| 4.500 | 1.436 | 0.000 | 1.436 | 1.436 |
| 5.500 | 1.812 | 0.000 | 1.812 | 1.812 |
| 6.500 | 2.083 | 0.000 | 2.083 | 2.083 |
| 6.950 | 2.247 | 0.000 | 2.247 | 2.247 |
| 7.500 | 2.509 | 1.508 | 2.504 | 2.514 |
| 8.500 | 2.780 | 7.417 | 2.754 | 2.806 |
| 9.500 | 2.964 | 7.920 | 2.937 | 2.991 |

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

| Time (Hours) | Inflow (CFS) | Outflow (CFS) | Storage (Ac.Ft) | .0 | 1.6 | 3.20 | 4.81 | 6.41 | Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0.083 | 0.13 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 0.167 | 0.31 | 0.00 | 0.002 | OI | \| | \| | \| | \| | 0.01 |
| 0.250 | 0.35 | 0.00 | 0.004 | OI | \| | \| | \| | \| | 0.02 |
| 0.333 | 0.43 | 0.00 | 0.007 | O I | \| | \| | \| | \| | 0.04 |
| 0.417 | 0.53 | 0.00 | 0.010 | O I | \| | \| | \| | \| | 0.06 |
| 0.500 | 0.55 | 0.00 | 0.014 | O I | \| | \| | \| | \| | 0.08 |
| 0.583 | 0.56 | 0.00 | 0.018 | O I | \| | \| | \| | \| | 0.10 |
| 0.667 | 0.56 | 0.00 | 0.022 | O I | \| | \| | \| | \| | 0.12 |
| 0.750 | 0.57 | 0.00 | 0.025 | O I | \| | \| | \| | \| | 0.14 |
| 0.833 | 0.63 | 0.00 | 0.030 | O I | \| | \| | \| | \| | 0.16 |
| 0.917 | 0.72 | 0.00 | 0.034 | O I | \| | \| | \| | \| | 0.19 |
| 1.000 | 0.74 | 0.00 | 0.039 | O I | \| | \| | \| | \| | 0.21 |
| 1.083 | 0.68 | 0.00 | 0.044 | O I | \| | \| | \| | \| | 0.24 |
| 1.167 | 0.60 | 0.00 | 0.049 | O I | \| | \| | \| | \| | 0.26 |
| 1.250 | 0.58 | 0.00 | 0.053 | O I | \| | \| | \| | \| | 0.29 |
| 1.333 | 0.57 | 0.00 | 0.057 | O I | \| | \| | \| | \| | 0.31 |
| 1.417 | 0.57 | 0.00 | 0.061 | O I | \| | \| | \| | \| | 0.33 |
| 1.500 | 0.57 | 0.00 | 0.064 | O I | \| | \| | \| | \| | 0.35 |
| 1.583 | 0.57 | 0.00 | 0.068 | O I | \| | \| | \| | \| | 0.37 |
| 1.667 | 0.57 | 0.00 | 0.072 | O I | \| | \| | \| | \| | 0.39 |
| 1.750 | 0.57 | 0.00 | 0.076 | O I | \| | \| | \| | \| | 0.41 |
| 1.833 | 0.63 | 0.00 | 0.080 | O I | \| | \| | \| | \| | 0.44 |
| 1.917 | 0.72 | 0.00 | 0.085 | O I | \| | \| | \| | \| | 0.46 |
| 2.000 | 0.74 | 0.00 | 0.090 | O I | \| | \| | \| | \| | 0.49 |
| 2.083 | 0.75 | 0.00 | 0.095 | O I | \| | \| | \| | \| | 0.51 |
| 2.167 | 0.75 | 0.00 | 0.100 | O I | \| | \| | \| | \| | 0.53 |
| 2.250 | 0.75 | 0.00 | 0.105 | O I | \| | \| | \| | \| | 0.55 |
| 2.333 | 0.75 | 0.00 | 0.111 | O I | \| | \| | \| | \| | 0.57 |
| 2.417 | 0.75 | 0.00 | 0.116 | O I | \| | \| | \| | \| | 0.59 |
| 2.500 | 0.75 | 0.00 | 0.121 | O I | \| | \| | \| | \| | 0.61 |
| 2.583 | 0.82 | 0.00 | 0.126 | O I | \| | \| | \| | \| | 0.63 |
| 2.667 | 0.91 | 0.00 | 0.132 | O I | \| | \| | \| | \| | 0.65 |
| 2.750 | 0.93 | 0.00 | 0.139 | O I | \| | \| | \| | \| | 0.67 |
| 2.833 | 0.94 | 0.00 | 0.145 | O I | \| | \| | \| | \| | 0.70 |
| 2.917 | 0.94 | 0.00 | 0.152 | O I | \| | \| | \| | \| | 0.72 |
| 3.000 | 0.94 | 0.00 | 0.158 | O I | \| | \| | \| | \| | 0.74 |
| 3.083 | 0.94 | 0.00 | 0.164 | O I | \| | \| | \| | \| | 0.77 |
| 3.167 | 0.94 | 0.00 | 0.171 | O I | \| | \| | \| | \| | 0.79 |
| 3.250 | 0.94 | 0.00 | 0.177 | O I | \| | \| | \| | \| | 0.82 |
| 3.333 | 0.94 | 0.00 | 0.184 | O I | \| | \| | \| | \| | 0.84 |
| 3.417 | 0.94 | 0.00 | 0.190 | O I | \| | \| | \| | \| | 0.86 |
| 3.500 | 0.94 | 0.00 | 0.197 | O I | \| | \| | \| | \| | 0.89 |
| 3.583 | 0.94 | 0.00 | 0.203 | O I | \| | \| | \| | \| | 0.91 |
| 3.667 | 0.94 | 0.00 | 0.210 | O I | \| | \| | \| | \| | 0.94 |
| 3.750 | 0.94 | 0.00 | 0.216 | O I | \| | \| | \| | \| | 0.96 |
| 3.833 | 1.01 | 0.00 | 0.223 | O I | \| | \| | \| | \| | 0.98 |
| 3.917 | 1.10 | 0.00 | 0.230 | O I | \| | \| | \| | \| | 1.01 |
| 4.000 | 1.12 | 0.00 | 0.238 | O I | \| | \| | \| | \| | 1.04 |
| 4.083 | 1.12 | 0.00 | 0.246 | O I | \| | \| | \| | \| | 1.07 |
| 4.167 | 1.13 | 0.00 | 0.253 | O I | \| | \| | \| | \| | 1.10 |
| 4.250 | 1.13 | 0.00 | 0.261 | O I | \| | \| | \| | \| | 1.12 |
| 4.333 | 1.20 | 0.00 | 0.269 | O I | \| | \| | \| | \| | 1.15 |
| 4.417 | 1.28 | 0.00 | 0.278 | O I | \| | \| | \| | \| | 1.19 |
| 4.500 | 1.30 | 0.00 | 0.287 | O I | \| | \| | \| | \| | 1.22 |

```
 4.583    1.31    0.00      0.296  O     I |       |       |       |     1.25
 4.667    1.32    0.00      0.305  O     I |       |       |       |     1.29
 4.750    1.32    0.00      0.314  O     I |       |       |       |     1.32
 4.833    1.39    0.00      0.323  O     I |       |       |       |     1.35
 4.917    1.47    0.00      0.333  O      I|       |       |       |     1.39
 5.000    1.49    0.00      0.343  O      I|       |       |       |     1.43
 5.083    1.37    0.00      0.353  O     I |       |       |       |     1.46
 5.167    1.20    0.00      0.362  O    I  |       |       |       |     1.50
 5.250    1.16    0.00      0.370  O    I  |       |       |       |     1.52
 5.333    1.21    0.00      0.378  O     I |       |       |       |     1.55
 5.417    1.29    0.00      0.387  O     I |       |       |       |     1.57
 5.500    1.30    0.00      0.396  O     I |       |       |       |     1.60
 5.583    1.38    0.00      0.405  O     I |       |       |       |     1.63
 5.667    1.47    0.00      0.415  O      I|       |       |       |     1.65
 5.750    1.49    0.00      0.425  O      I|       |       |       |     1.69
 5.833    1.50    0.00      0.435  O      I|       |       |       |     1.72
 5.917    1.51    0.00      0.446  O      I|       |       |       |     1.75
 6.000    1.51    0.00      0.456  O      I|       |       |       |     1.78
 6.083    1.57    0.00      0.467  O      I|       |       |       |     1.81
 6.167    1.66    0.00      0.478  O       I       |       |       |     1.84
 6.250    1.68    0.00      0.489  O       I       |       |       |     1.88
 6.333    1.69    0.00      0.501  O       I       |       |       |     1.91
 6.417    1.69    0.00      0.513  O       I       |       |       |     1.95
 6.500    1.70    0.00      0.524  O       I       |       |       |     1.98
 6.583    1.76    0.00      0.536  O       I       |       |       |     2.02
 6.667    1.85    0.00      0.549  O       |I      |       |       |     2.05
 6.750    1.87    0.00      0.561  O       |I      |       |       |     2.09
 6.833    1.88    0.00      0.574  O       |I      |       |       |     2.13
 6.917    1.88    0.00      0.587  O       |I      |       |       |     2.17
 7.000    1.88    0.00      0.600  O       |I      |       |       |     2.21
 7.083    1.88    0.00      0.613  O       |I      |       |       |     2.25
 7.167    1.88    0.00      0.626  O       |I      |       |       |     2.29
 7.250    1.88    0.00      0.639  O       |I      |       |       |     2.32
 7.333    1.95    0.00      0.652  O       |I      |       |       |     2.36
 7.417    2.04    0.00      0.666  O       | I     |       |       |     2.40
 7.500    2.06    0.00      0.680  O       | I     |       |       |     2.45
 7.583    2.13    0.00      0.695  O       | I     |       |       |     2.49
 7.667    2.22    0.00      0.710  O       |  I    |       |       |     2.53
 7.750    2.25    0.00      0.725  O       |  I    |       |       |     2.57
 7.833    2.32    0.00      0.741  O       |  I    |       |       |     2.62
 7.917    2.41    0.00      0.757  O       |   I   |       |       |     2.66
 8.000    2.44    0.00      0.774  O       |   I   |       |       |     2.71
 8.083    2.58    0.00      0.791  O       |   I   |       |       |     2.76
 8.167    2.76    0.00      0.809  O       |    I  |       |       |     2.81
 8.250    2.80    0.00      0.829  O       |    I  |       |       |     2.86
 8.333    2.81    0.00      0.848  O       |     I |       |       |     2.91
 8.417    2.82    0.00      0.867  O       |     I |       |       |     2.97
 8.500    2.83    0.00      0.887  O       |     I |       |       |     3.02
 8.583    2.89    0.00      0.906  O       |     I |       |       |     3.08
 8.667    2.98    0.00      0.927  O       |     I |       |       |     3.13
 8.750    3.00    0.00      0.947  O       |     I |       |       |     3.19
 8.833    3.08    0.00      0.968  O       |      I|       |       |     3.25
 8.917    3.17    0.00      0.990  O       |      I|       |       |     3.31
 9.000    3.19    0.00      1.012  O       |      I|       |       |     3.37
 9.083    3.33    0.00      1.034  O       |       I       |       |     3.43
 9.167    3.51    0.00      1.058  O       |       |I      |       |     3.49
 9.250    3.55    0.00      1.082  O       |       |I      |       |     3.56
 9.333    3.63    0.00      1.107  O       |       | I     |       |     3.62
 9.417    3.73    0.00      1.132  O       |       | I     |       |     3.69
 9.500    3.75    0.00      1.158  O       |       | I     |       |     3.76
 9.583    3.83    0.00      1.184  O       |       |  I    |       |     3.83
 9.667    3.92    0.00      1.211  O       |       |  I    |       |     3.90
 9.750    3.94    0.00      1.238  O       |       |  I    |       |     3.97
 9.833    4.02    0.00      1.265  O       |       |   I   |       |     4.05
 9.917    4.11    0.00      1.293  O       |       |   I   |       |     4.12
10.000    4.13    0.00      1.321  O       |       |   I   |       |     4.20
10.083    3.68    0.00      1.348  O       |       | I     |       |     4.27
10.167    3.07    0.00      1.372  O       |      I|       |       |     4.33
10.250    2.93    0.00      1.392  O       |     I |       |       |     4.38
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.333 | 2.87 | 0.00 | 1.412 | O | \| | I \| | \| | \| | 4.44 |
| 10.417 | 2.84 | 0.00 | 1.432 | O | \| | I \| | \| | \| | 4.49 |
| 10.500 | 2.83 | 0.00 | 1.451 | O | \| | I \| | \| | \| | 4.54 |
| 10.583 | 3.16 | 0.00 | 1.472 | O | \| | I\| | \| | \| | 4.60 |
| 10.667 | 3.59 | 0.00 | 1.495 | O | \| | \|I | \| | \| | 4.66 |
| 10.750 | 3.70 | 0.00 | 1.520 | O | \| | \| I | \| | \| | 4.72 |
| 10.833 | 3.74 | 0.00 | 1.546 | O | \| | \| I | \| | \| | 4.79 |
| 10.917 | 3.76 | 0.00 | 1.572 | O | \| | \| I | \| | \| | 4.86 |
| 11.000 | 3.77 | 0.00 | 1.598 | O | \| | \| I | \| | \| | 4.93 |
| 11.083 | 3.70 | 0.00 | 1.623 | O | \| | \| I | \| | \| | 5.00 |
| 11.167 | 3.62 | 0.00 | 1.649 | O | \| | \| I | \| | \| | 5.07 |
| 11.250 | 3.60 | 0.00 | 1.673 | O | \| | \|I | \| | \| | 5.13 |
| 11.333 | 3.59 | 0.00 | 1.698 | O | \| | \|I | \| | \| | 5.20 |
| 11.417 | 3.58 | 0.00 | 1.723 | O | \| | \|I | \| | \| | 5.26 |
| 11.500 | 3.58 | 0.00 | 1.747 | O | \| | \|I | \| | \| | 5.33 |
| 11.583 | 3.45 | 0.00 | 1.772 | O | \| | \|I | \| | \| | 5.39 |
| 11.667 | 3.27 | 0.00 | 1.795 | O | \| | I | \| | \| | 5.45 |
| 11.750 | 3.23 | 0.00 | 1.817 | O | \| | I | \| | \| | 5.52 |
| 11.833 | 3.28 | 0.00 | 1.840 | O | \| | I | \| | \| | 5.60 |
| 11.917 | 3.36 | 0.00 | 1.863 | O | \| | I | \| | \| | 5.69 |
| 12.000 | 3.38 | 0.00 | 1.886 | O | \| | I | \| | \| | 5.77 |
| 12.083 | 3.85 | 0.00 | 1.911 | O | \| | \| I | \| | \| | 5.86 |
| 12.167 | 4.46 | 0.00 | 1.939 | O | \| | \| I \| | \| | 5.97 |
| 12.250 | 4.61 | 0.00 | 1.970 | O | \| | \| I\| | \| | 6.08 |
| 12.333 | 4.74 | 0.00 | 2.003 | O | \| | \| I\| | \| | 6.20 |
| 12.417 | 4.85 | 0.00 | 2.036 | O | \| | \| I | \| | 6.33 |
| 12.500 | 4.89 | 0.00 | 2.069 | O | \| | \| I | \| | 6.45 |
| 12.583 | 5.03 | 0.00 | 2.103 | O | \| | \| \|I | \| | 6.56 |
| 12.667 | 5.21 | 0.00 | 2.139 | O | \| | \| \|I | \| | 6.65 |
| 12.750 | 5.25 | 0.00 | 2.175 | O | \| | \| I \| | \| | 6.75 |
| 12.833 | 5.33 | 0.00 | 2.211 | O | \| | \| I \| | \| | 6.85 |
| 12.917 | 5.43 | 0.01 | 2.248 | O | \| | \| \| I | \| | 6.95 |
| 13.000 | 5.45 | 0.22 | 2.285 | \|O | \| | \| \| I | \| | 7.03 |
| 13.083 | 5.79 | 0.43 | 2.321 | \| O | \| | \| \| I | \| | 7.11 |
| 13.167 | 6.23 | 0.64 | 2.359 | \| O | \| | \| \| \| I\| | 7.18 |
| 13.250 | 6.33 | 0.86 | 2.397 | \| O | \| | \| \| \| I\| | 7.26 |
| 13.333 | 6.38 | 1.08 | 2.434 | \| O | \| | \| \| \| I\| | 7.34 |
| 13.417 | 6.40 | 1.28 | 2.470 | \| O | \| | \| \| \| I\| | 7.42 |
| 13.500 | 6.41 | 1.48 | 2.504 | \| O\| | \| | \| \| I | 7.49 |
| 13.583 | 5.68 | 2.05 | 2.534 | \| \| O | \| | \| I | \| | 7.59 |
| 13.667 | 4.72 | 2.49 | 2.554 | \| \| O | \| | I\| | \| | 7.67 |
| 13.750 | 4.50 | 2.79 | 2.568 | \| \| O | \| | I \| | \| | 7.72 |
| 13.833 | 4.40 | 3.02 | 2.578 | \| \| O\| | I \| | \| | 7.76 |
| 13.917 | 4.35 | 3.21 | 2.587 | \| \| O | I \| | \| | 7.79 |
| 14.000 | 4.33 | 3.37 | 2.594 | \| \| O | I \| | \| | 7.81 |
| 14.083 | 4.60 | 3.52 | 2.601 | \| \| \|O | I \| | \| | 7.84 |
| 14.167 | 4.95 | 3.70 | 2.609 | \| \| \| O | I \| | \| | 7.87 |
| 14.250 | 5.03 | 3.88 | 2.618 | \| \| \| O | \|I \| | \| | 7.90 |
| 14.333 | 5.00 | 4.04 | 2.625 | \| \| \| O | I \| | \| | 7.93 |
| 14.417 | 4.93 | 4.17 | 2.631 | \| \| \| O | I \| | \| | 7.95 |
| 14.500 | 4.91 | 4.27 | 2.636 | \| \| \| O | I \| | \| | 7.97 |
| 14.583 | 4.91 | 4.36 | 2.640 | \| \| \| O | I \| | \| | 7.98 |
| 14.667 | 4.90 | 4.44 | 2.643 | \| \| \| O | I \| | \| | 8.00 |
| 14.750 | 4.90 | 4.50 | 2.646 | \| \| \| O | I \| | \| | 8.01 |
| 14.833 | 4.83 | 4.55 | 2.649 | \| \| \| O | I \| | \| | 8.02 |
| 14.917 | 4.75 | 4.59 | 2.650 | \| \| \| O | I\| | \| | 8.02 |
| 15.000 | 4.73 | 4.61 | 2.651 | \| \| \| O | \| | \| | 8.02 |
| 15.083 | 4.65 | 4.62 | 2.652 | \| \| \| O | \| | \| | 8.03 |
| 15.167 | 4.56 | 4.62 | 2.652 | \| \| \| I | O\| | \| | 8.03 |
| 15.250 | 4.54 | 4.61 | 2.651 | \| \| \| I | O\| | \| | 8.02 |
| 15.333 | 4.46 | 4.59 | 2.650 | \| \| \| O | \| | \| | 8.02 |
| 15.417 | 4.37 | 4.57 | 2.649 | \| \| \| I | O \| | \| | 8.02 |
| 15.500 | 4.35 | 4.54 | 2.648 | \| \| \| I | O \| | \| | 8.01 |
| 15.583 | 4.08 | 4.49 | 2.646 | \| \| \| \| I O \| | \| | 8.01 |
| 15.667 | 3.72 | 4.41 | 2.642 | \| \| \| I | O \| | \| | 7.99 |
| 15.750 | 3.64 | 4.31 | 2.637 | \| \| \| I | O \| | \| | 7.97 |
| 15.833 | 3.60 | 4.21 | 2.633 | \| \| \| I | O \| | \| | 7.96 |
| 15.917 | 3.59 | 4.13 | 2.629 | \| \| \|I | O \| | \| | 7.94 |
| 16.000 | 3.58 | 4.05 | 2.626 | \| \| \|I | O \| | \| | 7.93 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 16.083 | 2.59 | 3.92 | 2.619 | | I | O | | 7.91 |
| 16.167 | 1.28 | 3.64 | 2.607 | I | | O | | 7.86 |
| 16.250 | 0.98 | 3.29 | 2.591 | I | O | | | 7.80 |
| 16.333 | 0.84 | 2.96 | 2.575 | I | O | | | 7.75 |
| 16.417 | 0.78 | 2.66 | 2.562 | I | O | | | 7.69 |
| 16.500 | 0.75 | 2.39 | 2.550 | I | O | | | 7.65 |
| 16.583 | 0.69 | 2.16 | 2.539 | I | O | | | 7.61 |
| 16.667 | 0.60 | 1.95 | 2.529 | I | O | | | 7.57 |
| 16.750 | 0.58 | 1.76 | 2.520 | I | O | | | 7.54 |
| 16.833 | 0.57 | 1.59 | 2.513 | I | O | | | 7.51 |
| 16.917 | 0.57 | 1.49 | 2.506 | I | O | | | 7.49 |
| 17.000 | 0.57 | 1.46 | 2.500 | I | O | | | 7.48 |
| 17.083 | 0.70 | 1.42 | 2.494 | I | O | | | 7.47 |
| 17.167 | 0.87 | 1.40 | 2.490 | I | O | | | 7.46 |
| 17.250 | 0.91 | 1.38 | 2.487 | I | O | | | 7.45 |
| 17.333 | 0.93 | 1.36 | 2.484 | I | O | | | 7.45 |
| 17.417 | 0.94 | 1.35 | 2.481 | I | O | | | 7.44 |
| 17.500 | 0.94 | 1.33 | 2.478 | I | O | | | 7.43 |
| 17.583 | 0.94 | 1.31 | 2.475 | I | O | | | 7.43 |
| 17.667 | 0.94 | 1.30 | 2.473 | I | O | | | 7.42 |
| 17.750 | 0.94 | 1.29 | 2.470 | I | O | | | 7.42 |
| 17.833 | 0.88 | 1.27 | 2.468 | I | O | | | 7.41 |
| 17.917 | 0.79 | 1.25 | 2.465 | I | O | | | 7.41 |
| 18.000 | 0.77 | 1.24 | 2.462 | I | O | | | 7.40 |
| 18.083 | 0.76 | 1.22 | 2.458 | I | O | | | 7.39 |
| 18.167 | 0.76 | 1.20 | 2.455 | I | O | | | 7.39 |
| 18.250 | 0.75 | 1.18 | 2.452 | I | O | | | 7.38 |
| 18.333 | 0.75 | 1.17 | 2.449 | I | O | | | 7.38 |
| 18.417 | 0.75 | 1.15 | 2.447 | I | O | | | 7.37 |
| 18.500 | 0.75 | 1.13 | 2.444 | I | O | | | 7.36 |
| 18.583 | 0.69 | 1.12 | 2.441 | I | O | | | 7.36 |
| 18.667 | 0.60 | 1.10 | 2.438 | I | O | | | 7.35 |
| 18.750 | 0.58 | 1.08 | 2.435 | I | O | | | 7.34 |
| 18.833 | 0.51 | 1.06 | 2.431 | I | O | | | 7.34 |
| 18.917 | 0.41 | 1.04 | 2.427 | I | O | | | 7.33 |
| 19.000 | 0.39 | 1.01 | 2.423 | I | O | | | 7.32 |
| 19.083 | 0.45 | 0.99 | 2.419 | I | O | | | 7.31 |
| 19.167 | 0.53 | 0.97 | 2.415 | I | O | | | 7.30 |
| 19.250 | 0.55 | 0.95 | 2.412 | I | O | | | 7.30 |
| 19.333 | 0.63 | 0.94 | 2.410 | I | O | | | 7.29 |
| 19.417 | 0.72 | 0.93 | 2.408 | I | O | | | 7.29 |
| 19.500 | 0.74 | 0.92 | 2.407 | I | O | | | 7.29 |
| 19.583 | 0.68 | 0.91 | 2.405 | I | O | | | 7.28 |
| 19.667 | 0.60 | 0.90 | 2.404 | I | O | | | 7.28 |
| 19.750 | 0.58 | 0.89 | 2.401 | I | O | | | 7.27 |
| 19.833 | 0.51 | 0.88 | 2.399 | I | O | | | 7.27 |
| 19.917 | 0.41 | 0.86 | 2.396 | I | O | | | 7.26 |
| 20.000 | 0.39 | 0.84 | 2.393 | I | O | | | 7.26 |
| 20.083 | 0.45 | 0.83 | 2.390 | I | O | | | 7.25 |
| 20.167 | 0.53 | 0.81 | 2.388 | I | O | | | 7.25 |
| 20.250 | 0.55 | 0.80 | 2.386 | I | O | | | 7.24 |
| 20.333 | 0.56 | 0.79 | 2.385 | I | O | | | 7.24 |
| 20.417 | 0.56 | 0.78 | 2.383 | I | O | | | 7.24 |
| 20.500 | 0.57 | 0.77 | 2.382 | I | O | | | 7.23 |
| 20.583 | 0.57 | 0.77 | 2.380 | I | O | | | 7.23 |
| 20.667 | 0.57 | 0.76 | 2.379 | I | O | | | 7.23 |
| 20.750 | 0.57 | 0.75 | 2.377 | I | O | | | 7.22 |
| 20.833 | 0.50 | 0.74 | 2.376 | I | O | | | 7.22 |
| 20.917 | 0.41 | 0.73 | 2.374 | I | O | | | 7.22 |
| 21.000 | 0.39 | 0.72 | 2.372 | I | O | | | 7.21 |
| 21.083 | 0.45 | 0.71 | 2.370 | I | O | | | 7.21 |
| 21.167 | 0.53 | 0.70 | 2.368 | I | O | | | 7.20 |
| 21.250 | 0.55 | 0.69 | 2.367 | I | O | | | 7.20 |
| 21.333 | 0.49 | 0.69 | 2.366 | I | O | | | 7.20 |
| 21.417 | 0.41 | 0.68 | 2.365 | I | O | | | 7.20 |
| 21.500 | 0.39 | 0.67 | 2.363 | I | O | | | 7.19 |
| 21.583 | 0.45 | 0.66 | 2.361 | I | O | | | 7.19 |
| 21.667 | 0.53 | 0.65 | 2.360 | I | O | | | 7.19 |
| 21.750 | 0.55 | 0.65 | 2.359 | I | O | | | 7.19 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 21.833 | 0.49 | 0.64 | 2.358 | \| IO | \| | \| | \| | \| 7.18 |
| 21.917 | 0.41 | 0.63 | 2.357 | \| IO | \| | \| | \| | \| 7.18 |
| 22.000 | 0.39 | 0.62 | 2.355 | \|I O | \| | \| | \| | \| 7.18 |
| 22.083 | 0.45 | 0.62 | 2.354 | \| IO | \| | \| | \| | \| 7.17 |
| 22.167 | 0.53 | 0.61 | 2.353 | \| IO | \| | \| | \| | \| 7.17 |
| 22.250 | 0.55 | 0.61 | 2.353 | \| IO | \| | \| | \| | \| 7.17 |
| 22.333 | 0.49 | 0.61 | 2.352 | \| IO | \| | \| | \| | \| 7.17 |
| 22.417 | 0.41 | 0.60 | 2.351 | \| O | \| | \| | \| | \| 7.17 |
| 22.500 | 0.39 | 0.59 | 2.350 | \|IO | \| | \| | \| | \| 7.17 |
| 22.583 | 0.38 | 0.58 | 2.348 | \|IO | \| | \| | \| | \| 7.16 |
| 22.667 | 0.38 | 0.58 | 2.347 | \|IO | \| | \| | \| | \| 7.16 |
| 22.750 | 0.38 | 0.57 | 2.346 | \|IO | \| | \| | \| | \| 7.16 |
| 22.833 | 0.38 | 0.56 | 2.344 | \|IO | \| | \| | \| | \| 7.15 |
| 22.917 | 0.38 | 0.55 | 2.343 | \|IO | \| | \| | \| | \| 7.15 |
| 23.000 | 0.38 | 0.55 | 2.342 | \|IO | \| | \| | \| | \| 7.15 |
| 23.083 | 0.38 | 0.54 | 2.341 | \|IO | \| | \| | \| | \| 7.15 |
| 23.167 | 0.38 | 0.53 | 2.340 | \|IO | \| | \| | \| | \| 7.14 |
| 23.250 | 0.38 | 0.53 | 2.339 | \|IO | \| | \| | \| | \| 7.14 |
| 23.333 | 0.38 | 0.52 | 2.338 | \|IO | \| | \| | \| | \| 7.14 |
| 23.417 | 0.38 | 0.52 | 2.337 | \|IO | \| | \| | \| | \| 7.14 |
| 23.500 | 0.38 | 0.51 | 2.336 | \|IO | \| | \| | \| | \| 7.14 |
| 23.583 | 0.38 | 0.51 | 2.335 | \|IO | \| | \| | \| | \| 7.13 |
| 23.667 | 0.38 | 0.50 | 2.334 | \|IO | \| | \| | \| | \| 7.13 |
| 23.750 | 0.38 | 0.50 | 2.333 | \|IO | \| | \| | \| | \| 7.13 |
| 23.833 | 0.38 | 0.49 | 2.332 | \|IO | \| | \| | \| | \| 7.13 |
| 23.917 | 0.38 | 0.49 | 2.332 | \|IO | \| | \| | \| | \| 7.13 |
| 24.000 | 0.38 | 0.48 | 2.331 | \|IO | \| | \| | \| | \| 7.13 |
| 24.083 | 0.25 | 0.48 | 2.330 | \|IO | \| | \| | \| | \| 7.12 |
| 24.167 | 0.07 | 0.46 | 2.328 | I O | \| | \| | \| | \| 7.12 |
| 24.250 | 0.03 | 0.45 | 2.325 | I O | \| | \| | \| | \| 7.11 |
| 24.333 | 0.01 | 0.43 | 2.322 | I O | \| | \| | \| | \| 7.11 |
| 24.417 | 0.00 | 0.41 | 2.319 | I O | \| | \| | \| | \| 7.10 |
| 24.500 | 0.00 | 0.40 | 2.316 | IO | \| | \| | \| | \| 7.10 |
| 24.583 | 0.00 | 0.38 | 2.313 | IO | \| | \| | \| | \| 7.09 |
| 24.667 | 0.00 | 0.37 | 2.311 | IO | \| | \| | \| | \| 7.08 |
| 24.750 | 0.00 | 0.35 | 2.308 | IO | \| | \| | \| | \| 7.08 |
| 24.833 | 0.00 | 0.34 | 2.306 | IO | \| | \| | \| | \| 7.07 |
| 24.917 | 0.00 | 0.33 | 2.304 | IO | \| | \| | \| | \| 7.07 |
| 25.000 | 0.00 | 0.31 | 2.302 | IO | \| | \| | \| | \| 7.06 |
| 25.083 | 0.00 | 0.30 | 2.299 | IO | \| | \| | \| | \| 7.06 |
| 25.167 | 0.00 | 0.29 | 2.297 | IO | \| | \| | \| | \| 7.06 |
| 25.250 | 0.00 | 0.28 | 2.295 | IO | \| | \| | \| | \| 7.05 |
| 25.333 | 0.00 | 0.27 | 2.294 | IO | \| | \| | \| | \| 7.05 |
| 25.417 | 0.00 | 0.26 | 2.292 | IO | \| | \| | \| | \| 7.04 |
| 25.500 | 0.00 | 0.25 | 2.290 | IO | \| | \| | \| | \| 7.04 |
| 25.583 | 0.00 | 0.24 | 2.288 | IO | \| | \| | \| | \| 7.04 |
| 25.667 | 0.00 | 0.23 | 2.287 | IO | \| | \| | \| | \| 7.03 |
| 25.750 | 0.00 | 0.22 | 2.285 | IO | \| | \| | \| | \| 7.03 |
| 25.833 | 0.00 | 0.21 | 2.284 | IO | \| | \| | \| | \| 7.03 |
| 25.917 | 0.00 | 0.20 | 2.282 | IO | \| | \| | \| | \| 7.02 |
| 26.000 | 0.00 | 0.20 | 2.281 | O | \| | \| | \| | \| 7.02 |
| 26.083 | 0.00 | 0.19 | 2.280 | O | \| | \| | \| | \| 7.02 |
| 26.167 | 0.00 | 0.18 | 2.278 | O | \| | \| | \| | \| 7.02 |
| 26.250 | 0.00 | 0.17 | 2.277 | O | \| | \| | \| | \| 7.01 |
| 26.333 | 0.00 | 0.17 | 2.276 | O | \| | \| | \| | \| 7.01 |
| 26.417 | 0.00 | 0.16 | 2.275 | O | \| | \| | \| | \| 7.01 |
| 26.500 | 0.00 | 0.15 | 2.274 | O | \| | \| | \| | \| 7.01 |
| 26.583 | 0.00 | 0.15 | 2.273 | O | \| | \| | \| | \| 7.00 |
| 26.667 | 0.00 | 0.14 | 2.272 | O | \| | \| | \| | \| 7.00 |
| 26.750 | 0.00 | 0.14 | 2.271 | O | \| | \| | \| | \| 7.00 |
| 26.833 | 0.00 | 0.13 | 2.270 | O | \| | \| | \| | \| 7.00 |
| 26.917 | 0.00 | 0.13 | 2.269 | O | \| | \| | \| | \| 7.00 |
| 27.000 | 0.00 | 0.12 | 2.268 | O | \| | \| | \| | \| 6.99 |
| 27.083 | 0.00 | 0.12 | 2.267 | O | \| | \| | \| | \| 6.99 |
| 27.167 | 0.00 | 0.11 | 2.266 | O | \| | \| | \| | \| 6.99 |
| 27.250 | 0.00 | 0.11 | 2.266 | O | \| | \| | \| | \| 6.99 |
| 27.333 | 0.00 | 0.10 | 2.265 | O | \| | \| | \| | \| 6.99 |
| 27.417 | 0.00 | 0.10 | 2.264 | O | \| | \| | \| | \| 6.99 |
| 27.500 | 0.00 | 0.10 | 2.264 | O | \| | \| | \| | \| 6.98 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 27.583 | 0.00 | 0.09 | 2.263 | O | | | | | 6.98 |
| 27.667 | 0.00 | 0.09 | 2.262 | O | | | | | 6.98 |
| 27.750 | 0.00 | 0.08 | 2.262 | O | | | | | 6.98 |
| 27.833 | 0.00 | 0.08 | 2.261 | O | | | | | 6.98 |
| 27.917 | 0.00 | 0.08 | 2.261 | O | | | | | 6.98 |
| 28.000 | 0.00 | 0.08 | 2.260 | O | | | | | 6.98 |
| 28.083 | 0.00 | 0.07 | 2.260 | O | | | | | 6.98 |
| 28.167 | 0.00 | 0.07 | 2.259 | O | | | | | 6.98 |
| 28.250 | 0.00 | 0.07 | 2.259 | O | | | | | 6.97 |
| 28.333 | 0.00 | 0.06 | 2.258 | O | | | | | 6.97 |
| 28.417 | 0.00 | 0.06 | 2.258 | O | | | | | 6.97 |
| 28.500 | 0.00 | 0.06 | 2.257 | O | | | | | 6.97 |
| 28.583 | 0.00 | 0.06 | 2.257 | O | | | | | 6.97 |
| 28.667 | 0.00 | 0.05 | 2.257 | O | | | | | 6.97 |
| 28.750 | 0.00 | 0.05 | 2.256 | O | | | | | 6.97 |
| 28.833 | 0.00 | 0.05 | 2.256 | O | | | | | 6.97 |
| 28.917 | 0.00 | 0.05 | 2.255 | O | | | | | 6.97 |
| 29.000 | 0.00 | 0.05 | 2.255 | O | | | | | 6.97 |
| 29.083 | 0.00 | 0.04 | 2.255 | O | | | | | 6.97 |
| 29.167 | 0.00 | 0.04 | 2.255 | O | | | | | 6.97 |
| 29.250 | 0.00 | 0.04 | 2.254 | O | | | | | 6.97 |
| 29.333 | 0.00 | 0.04 | 2.254 | O | | | | | 6.96 |
| 29.417 | 0.00 | 0.04 | 2.254 | O | | | | | 6.96 |
| 29.500 | 0.00 | 0.04 | 2.253 | O | | | | | 6.96 |
| 29.583 | 0.00 | 0.04 | 2.253 | O | | | | | 6.96 |
| 29.667 | 0.00 | 0.03 | 2.253 | O | | | | | 6.96 |
| 29.750 | 0.00 | 0.03 | 2.253 | O | | | | | 6.96 |
| 29.833 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 29.917 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 30.000 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 30.083 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 30.167 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 30.250 | 0.00 | 0.03 | 2.251 | O | | | | | 6.96 |
| 30.333 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 30.417 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 30.500 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 30.583 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 30.667 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 30.750 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 30.833 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 30.917 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 31.000 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 31.083 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 31.167 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 31.250 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 31.333 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 31.417 | 0.00 | 0.01 | 2.250 | O | | | | | 6.96 |
| 31.500 | 0.00 | 0.01 | 2.249 | O | | | | | 6.96 |
| 31.583 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.667 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.750 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.833 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 31.917 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.000 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.083 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.167 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.250 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.333 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.417 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.500 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.583 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.667 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.750 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.833 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 32.917 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 33.000 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 33.083 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 33.167 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 33.250 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 33.333 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | 6.95 |
| 33.417 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | 6.95 |
| 33.500 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | 6.95 |
| 33.583 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | 6.95 |
| 33.667 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | 6.95 |
| 33.750 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 33.833 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 33.917 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.000 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.083 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.167 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.250 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.333 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.417 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.500 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.583 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.667 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.750 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.833 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | 6.95 |
| 34.917 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.000 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.083 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.167 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.250 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.333 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.417 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.500 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.583 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.667 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.750 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.833 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 35.917 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.000 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.083 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.167 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.250 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.333 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.417 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.500 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.583 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.667 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.750 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.833 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 36.917 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 37.000 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |
| 37.083 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | 6.95 |

Remaining water in basin = 2.25 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 445
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 4.618 (CFS)
Total volume = 1.647 (Ac.Ft)

Status of hydrographs being held in storage

| | Stream 1 | Stream 2 | Stream 3 | Stream 4 | Stream 5 |
|---|---|---|---|---|---|
| Peak (CFS) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Vol (Ac.Ft) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 03/03/23

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225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
BASIN ROUTING
100-YEAR, 6-HOUR STORM
BY: JTS  DATE: 03-03-23
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Program License Serial Number 6320

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******************** HYDROGRAPH INFORMATION **********************

From study/file name: devhyd6100.rte
****************************HYDROGRAPH DATA****************************
Number of intervals =  77
Time interval =  5.0 (Min.)
Maximum/Peak flow rate =  19.830 (CFS)
Total volume =  2.778 (Ac.Ft)
Status of hydrographs being held in storage

| | Stream 1 | Stream 2 | Stream 3 | Stream 4 | Stream 5 |
|---|---|---|---|---|---|
| Peak (CFS) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Vol (Ac.Ft) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**********

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station  13.000 to Point/Station  15.000
**** RETARDING BASIN ROUTING ****
_____

Program computation of outflow v. depth

CALCULATED OUTFLOW DATA AT DEPTH =  0.50(Ft.))
Total outflow at this depth =  0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =  1.50(Ft.))
Total outflow at this depth =  0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =  2.50(Ft.))
Total outflow at this depth =  0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =  3.50(Ft.))
Total outflow at this depth =  0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =  4.50(Ft.))
Total outflow at this depth =  0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =  5.50(Ft.))
Total outflow at this depth =  0.00(CFS)

```
CALCULATED OUTFLOW DATA AT DEPTH =    6.50(Ft.))
Total outflow at this depth =      0.00(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    6.95(Ft.))
Total outflow at this depth =      0.00(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    7.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
Calculated individual pipe flow  =     1.508(CFS)
Normal flow depth in pipe =    2.57(In.)
Flow top width inside pipe =    8.74(In.)
Critical Depth =    0.55(Ft.)
Calculated flow rate through pipe(s) =      1.508(CFS)

Total outflow at this depth =      1.51(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    8.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is      7.130(Ft.)
Pipe friction loss =      2.827(Ft.)
Minor friction loss =      4.307(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =      7.417(CFS)

Total outflow at this depth =      7.42(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    9.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is      8.130(Ft.)
Pipe friction loss =      3.223(Ft.)
Minor friction loss =      4.911(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =      7.920(CFS)

Total outflow at this depth =      7.92(CFS)

----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 77
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
----------------------------------------------------------------------
----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
----------------------------------------------------------------------
----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  0.500      0.092      0.000      0.092        0.092
  1.500      0.363      0.000      0.363        0.363
  2.500      0.698      0.000      0.698        0.698
  3.500      1.060      0.000      1.060        1.060
```

| | | | | |
|---|---|---|---|---|
| 4.500 | 1.436 | 0.000 | 1.436 | 1.436 |
| 5.500 | 1.812 | 0.000 | 1.812 | 1.812 |
| 6.500 | 2.083 | 0.000 | 2.083 | 2.083 |
| 6.950 | 2.247 | 0.000 | 2.247 | 2.247 |
| 7.500 | 2.509 | 1.508 | 2.504 | 2.514 |
| 8.500 | 2.780 | 7.417 | 2.754 | 2.806 |
| 9.500 | 2.964 | 7.920 | 2.937 | 2.991 |

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

| Time (Hours) | Inflow (CFS) | Outflow (CFS) | Storage (Ac.Ft) | .0 5.0 9.92 14.87 19.83 | Depth (Ft.) |
|---|---|---|---|---|---|
| 0.083 | 0.70 | 0.00 | 0.002 | OI | 0.01 |
| 0.167 | 1.78 | 0.00 | 0.011 | O I | 0.06 |
| 0.250 | 2.19 | 0.00 | 0.025 | O I | 0.13 |
| 0.333 | 2.32 | 0.00 | 0.040 | O I | 0.22 |
| 0.417 | 2.39 | 0.00 | 0.056 | O I | 0.31 |
| 0.500 | 2.56 | 0.00 | 0.073 | O I | 0.40 |
| 0.583 | 2.75 | 0.00 | 0.092 | O I | 0.50 |
| 0.667 | 2.79 | 0.00 | 0.111 | O I | 0.57 |
| 0.750 | 2.81 | 0.00 | 0.130 | O I | 0.64 |
| 0.833 | 2.82 | 0.00 | 0.149 | O I | 0.71 |
| 0.917 | 2.82 | 0.00 | 0.169 | O I | 0.78 |
| 1.000 | 2.96 | 0.00 | 0.189 | O I | 0.86 |
| 1.083 | 3.15 | 0.00 | 0.210 | O I | 0.93 |
| 1.167 | 3.19 | 0.00 | 0.232 | O I | 1.02 |
| 1.250 | 3.21 | 0.00 | 0.254 | O I | 1.10 |
| 1.333 | 3.22 | 0.00 | 0.276 | O I | 1.18 |
| 1.417 | 3.22 | 0.00 | 0.298 | O I | 1.26 |
| 1.500 | 3.22 | 0.00 | 0.320 | O I | 1.34 |
| 1.583 | 3.22 | 0.00 | 0.342 | O I | 1.42 |
| 1.667 | 3.22 | 0.00 | 0.365 | O I | 1.50 |
| 1.750 | 3.22 | 0.00 | 0.387 | O I | 1.57 |
| 1.833 | 3.22 | 0.00 | 0.409 | O I | 1.64 |
| 1.917 | 3.22 | 0.00 | 0.431 | O I | 1.70 |
| 2.000 | 3.36 | 0.00 | 0.454 | O I | 1.77 |
| 2.083 | 3.41 | 0.00 | 0.477 | O I | 1.84 |
| 2.167 | 3.41 | 0.00 | 0.501 | O I | 1.91 |
| 2.250 | 3.57 | 0.00 | 0.525 | O I | 1.98 |
| 2.333 | 3.60 | 0.00 | 0.549 | O I | 2.06 |
| 2.417 | 3.62 | 0.00 | 0.574 | O I | 2.13 |
| 2.500 | 3.62 | 0.00 | 0.599 | O I | 2.21 |
| 2.583 | 3.63 | 0.00 | 0.624 | O I | 2.28 |
| 2.667 | 3.63 | 0.00 | 0.649 | O I | 2.35 |
| 2.750 | 3.77 | 0.00 | 0.675 | O I | 2.43 |
| 2.833 | 3.96 | 0.00 | 0.701 | O I | 2.51 |
| 2.917 | 4.00 | 0.00 | 0.729 | O I | 2.58 |
| 3.000 | 4.02 | 0.00 | 0.756 | O I | 2.66 |
| 3.083 | 4.03 | 0.00 | 0.784 | O I | 2.74 |
| 3.167 | 4.17 | 0.00 | 0.812 | O I | 2.82 |
| 3.250 | 4.36 | 0.00 | 0.842 | O I | 2.90 |
| 3.333 | 4.40 | 0.00 | 0.872 | O I | 2.98 |
| 3.417 | 4.56 | 0.00 | 0.903 | O I | 3.07 |
| 3.500 | 4.90 | 0.00 | 0.935 | O I | 3.16 |
| 3.583 | 5.27 | 0.00 | 0.970 | O I | 3.25 |
| 3.667 | 5.52 | 0.00 | 1.007 | O I | 3.35 |
| 3.750 | 5.73 | 0.00 | 1.046 | O I | 3.46 |
| 3.833 | 5.95 | 0.00 | 1.086 | O I | 3.57 |
| 3.917 | 6.15 | 0.00 | 1.128 | O I | 3.68 |
| 4.000 | 6.36 | 0.00 | 1.171 | O I | 3.80 |
| 4.083 | 6.55 | 0.00 | 1.216 | O I | 3.91 |
| 4.167 | 6.90 | 0.00 | 1.262 | O I | 4.04 |
| 4.250 | 7.28 | 0.00 | 1.311 | O I | 4.17 |
| 4.333 | 7.68 | 0.00 | 1.362 | O I | 4.30 |
| 4.417 | 8.08 | 0.00 | 1.417 | O I | 4.45 |
| 4.500 | 8.34 | 0.00 | 1.473 | O I | 4.60 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.583 | 8.56 | 0.00 | 1.531 | O | \| | I \| | \| | \| | 4.75 |
| 4.667 | 8.92 | 0.00 | 1.591 | O | \| | I \| | \| | \| | 4.91 |
| 4.750 | 9.30 | 0.00 | 1.654 | O | \| | I\| | \| | \| | 5.08 |
| 4.833 | 9.55 | 0.00 | 1.719 | O | \| | I\| | \| | \| | 5.25 |
| 4.917 | 9.76 | 0.00 | 1.786 | O | \| | I\| | \| | \| | 5.43 |
| 5.000 | 10.12 | 0.00 | 1.854 | O | \| | I \| | \| | \| | 5.66 |
| 5.083 | 11.07 | 0.00 | 1.927 | O | \| | \|I \| | \| | \| | 5.92 |
| 5.167 | 12.78 | 0.00 | 2.009 | O | \| | \| I \| | \| | \| | 6.23 |
| 5.250 | 14.38 | 0.00 | 2.103 | O | \| | \| I\| | \| | \| | 6.55 |
| 5.333 | 15.69 | 0.00 | 2.206 | O | \| | \| \|I \| | \| | 6.84 |
| 5.417 | 17.23 | 0.41 | 2.318 | O | \| | \| \| I \| | \| | 7.10 |
| 5.500 | 19.83 | 1.11 | 2.441 | \|O | \| | \| \| I | \| | 7.36 |
| 5.583 | 16.67 | 2.49 | 2.554 | \| O \| | \| | \| I \| | \| | 7.67 |
| 5.667 | 8.71 | 3.91 | 2.619 | \| O \| | I \| | \| | \| | \| | 7.91 |
| 5.750 | 5.01 | 4.32 | 2.638 | \| O I | \| | \| | \| | \| | 7.98 |
| 5.833 | 3.27 | 4.30 | 2.637 | \| IO \| | \| | \| | \| | \| | 7.97 |
| 5.917 | 2.17 | 4.08 | 2.627 | \| I O \| | \| | \| | \| | \| | 7.93 |
| 6.000 | 1.33 | 3.75 | 2.612 | \| I O \| | \| | \| | \| | \| | 7.88 |
| 6.083 | 0.69 | 3.37 | 2.594 | \|I O \| | \| | \| | \| | \| | 7.81 |
| 6.167 | 0.21 | 2.96 | 2.576 | I O \| | \| | \| | \| | \| | 7.75 |
| 6.250 | 0.08 | 2.57 | 2.558 | I O \| | \| | \| | \| | \| | 7.68 |
| 6.333 | 0.03 | 2.22 | 2.542 | I O \| | \| | \| | \| | \| | 7.62 |
| 6.417 | 0.01 | 1.91 | 2.527 | I O \| | \| | \| | \| | \| | 7.57 |
| 6.500 | 0.00 | 1.64 | 2.515 | I O \| | \| | \| | \| | \| | 7.52 |
| 6.583 | 0.00 | 1.48 | 2.504 | I O \| | \| | \| | \| | \| | 7.49 |
| 6.667 | 0.00 | 1.42 | 2.494 | I O \| | \| | \| | \| | \| | 7.47 |
| 6.750 | 0.00 | 1.37 | 2.485 | I O \| | \| | \| | \| | \| | 7.45 |
| 6.833 | 0.00 | 1.32 | 2.476 | I O \| | \| | \| | \| | \| | 7.43 |
| 6.917 | 0.00 | 1.26 | 2.467 | I O \| | \| | \| | \| | \| | 7.41 |
| 7.000 | 0.00 | 1.22 | 2.458 | IO \| | \| | \| | \| | \| | 7.39 |
| 7.083 | 0.00 | 1.17 | 2.450 | IO \| | \| | \| | \| | \| | 7.38 |
| 7.167 | 0.00 | 1.12 | 2.442 | IO \| | \| | \| | \| | \| | 7.36 |
| 7.250 | 0.00 | 1.08 | 2.434 | IO \| | \| | \| | \| | \| | 7.34 |
| 7.333 | 0.00 | 1.04 | 2.427 | IO \| | \| | \| | \| | \| | 7.33 |
| 7.417 | 0.00 | 1.00 | 2.420 | IO \| | \| | \| | \| | \| | 7.31 |
| 7.500 | 0.00 | 0.96 | 2.413 | IO \| | \| | \| | \| | \| | 7.30 |
| 7.583 | 0.00 | 0.92 | 2.407 | IO \| | \| | \| | \| | \| | 7.29 |
| 7.667 | 0.00 | 0.89 | 2.401 | IO \| | \| | \| | \| | \| | 7.27 |
| 7.750 | 0.00 | 0.85 | 2.395 | IO \| | \| | \| | \| | \| | 7.26 |
| 7.833 | 0.00 | 0.82 | 2.389 | IO \| | \| | \| | \| | \| | 7.25 |
| 7.917 | 0.00 | 0.79 | 2.383 | IO \| | \| | \| | \| | \| | 7.24 |
| 8.000 | 0.00 | 0.76 | 2.378 | IO \| | \| | \| | \| | \| | 7.23 |
| 8.083 | 0.00 | 0.73 | 2.373 | IO \| | \| | \| | \| | \| | 7.21 |
| 8.167 | 0.00 | 0.70 | 2.368 | IO \| | \| | \| | \| | \| | 7.20 |
| 8.250 | 0.00 | 0.67 | 2.363 | IO \| | \| | \| | \| | \| | 7.19 |
| 8.333 | 0.00 | 0.64 | 2.359 | IO \| | \| | \| | \| | \| | 7.19 |
| 8.417 | 0.00 | 0.62 | 2.355 | O \| | \| | \| | \| | \| | 7.18 |
| 8.500 | 0.00 | 0.60 | 2.350 | O \| | \| | \| | \| | \| | 7.17 |
| 8.583 | 0.00 | 0.57 | 2.346 | O \| | \| | \| | \| | \| | 7.16 |
| 8.667 | 0.00 | 0.55 | 2.343 | O \| | \| | \| | \| | \| | 7.15 |
| 8.750 | 0.00 | 0.53 | 2.339 | O \| | \| | \| | \| | \| | 7.14 |
| 8.833 | 0.00 | 0.51 | 2.335 | O \| | \| | \| | \| | \| | 7.14 |
| 8.917 | 0.00 | 0.49 | 2.332 | O \| | \| | \| | \| | \| | 7.13 |
| 9.000 | 0.00 | 0.47 | 2.329 | O \| | \| | \| | \| | \| | 7.12 |
| 9.083 | 0.00 | 0.45 | 2.325 | O \| | \| | \| | \| | \| | 7.11 |
| 9.167 | 0.00 | 0.43 | 2.322 | O \| | \| | \| | \| | \| | 7.11 |
| 9.250 | 0.00 | 0.42 | 2.319 | O \| | \| | \| | \| | \| | 7.10 |
| 9.333 | 0.00 | 0.40 | 2.317 | O \| | \| | \| | \| | \| | 7.10 |
| 9.417 | 0.00 | 0.38 | 2.314 | O \| | \| | \| | \| | \| | 7.09 |
| 9.500 | 0.00 | 0.37 | 2.311 | O \| | \| | \| | \| | \| | 7.08 |
| 9.583 | 0.00 | 0.36 | 2.309 | O \| | \| | \| | \| | \| | 7.08 |
| 9.667 | 0.00 | 0.34 | 2.306 | O \| | \| | \| | \| | \| | 7.07 |
| 9.750 | 0.00 | 0.33 | 2.304 | O \| | \| | \| | \| | \| | 7.07 |
| 9.833 | 0.00 | 0.32 | 2.302 | O \| | \| | \| | \| | \| | 7.07 |
| 9.917 | 0.00 | 0.30 | 2.300 | O \| | \| | \| | \| | \| | 7.06 |
| 10.000 | 0.00 | 0.29 | 2.298 | O \| | \| | \| | \| | \| | 7.06 |
| 10.083 | 0.00 | 0.28 | 2.296 | O \| | \| | \| | \| | \| | 7.05 |
| 10.167 | 0.00 | 0.27 | 2.294 | O \| | \| | \| | \| | \| | 7.05 |
| 10.250 | 0.00 | 0.26 | 2.292 | O \| | \| | \| | \| | \| | 7.04 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.333 | 0.00 | 0.25 | 2.290 | O | \| | \| | \| | \| | 7.04 |
| 10.417 | 0.00 | 0.24 | 2.289 | O | \| | \| | \| | \| | 7.04 |
| 10.500 | 0.00 | 0.23 | 2.287 | O | \| | \| | \| | \| | 7.03 |
| 10.583 | 0.00 | 0.22 | 2.285 | O | \| | \| | \| | \| | 7.03 |
| 10.667 | 0.00 | 0.21 | 2.284 | O | \| | \| | \| | \| | 7.03 |
| 10.750 | 0.00 | 0.20 | 2.282 | O | \| | \| | \| | \| | 7.02 |
| 10.833 | 0.00 | 0.20 | 2.281 | O | \| | \| | \| | \| | 7.02 |
| 10.917 | 0.00 | 0.19 | 2.280 | O | \| | \| | \| | \| | 7.02 |
| 11.000 | 0.00 | 0.18 | 2.278 | O | \| | \| | \| | \| | 7.02 |
| 11.083 | 0.00 | 0.17 | 2.277 | O | \| | \| | \| | \| | 7.01 |
| 11.167 | 0.00 | 0.17 | 2.276 | O | \| | \| | \| | \| | 7.01 |
| 11.250 | 0.00 | 0.16 | 2.275 | O | \| | \| | \| | \| | 7.01 |
| 11.333 | 0.00 | 0.15 | 2.274 | O | \| | \| | \| | \| | 7.01 |
| 11.417 | 0.00 | 0.15 | 2.273 | O | \| | \| | \| | \| | 7.00 |
| 11.500 | 0.00 | 0.14 | 2.272 | O | \| | \| | \| | \| | 7.00 |
| 11.583 | 0.00 | 0.14 | 2.271 | O | \| | \| | \| | \| | 7.00 |
| 11.667 | 0.00 | 0.13 | 2.270 | O | \| | \| | \| | \| | 7.00 |
| 11.750 | 0.00 | 0.13 | 2.269 | O | \| | \| | \| | \| | 7.00 |
| 11.833 | 0.00 | 0.12 | 2.268 | O | \| | \| | \| | \| | 6.99 |
| 11.917 | 0.00 | 0.12 | 2.267 | O | \| | \| | \| | \| | 6.99 |
| 12.000 | 0.00 | 0.11 | 2.267 | O | \| | \| | \| | \| | 6.99 |
| 12.083 | 0.00 | 0.11 | 2.266 | O | \| | \| | \| | \| | 6.99 |
| 12.167 | 0.00 | 0.10 | 2.265 | O | \| | \| | \| | \| | 6.99 |
| 12.250 | 0.00 | 0.10 | 2.264 | O | \| | \| | \| | \| | 6.99 |
| 12.333 | 0.00 | 0.10 | 2.264 | O | \| | \| | \| | \| | 6.99 |
| 12.417 | 0.00 | 0.09 | 2.263 | O | \| | \| | \| | \| | 6.98 |
| 12.500 | 0.00 | 0.09 | 2.262 | O | \| | \| | \| | \| | 6.98 |
| 12.583 | 0.00 | 0.09 | 2.262 | O | \| | \| | \| | \| | 6.98 |
| 12.667 | 0.00 | 0.08 | 2.261 | O | \| | \| | \| | \| | 6.98 |
| 12.750 | 0.00 | 0.08 | 2.261 | O | \| | \| | \| | \| | 6.98 |
| 12.833 | 0.00 | 0.08 | 2.260 | O | \| | \| | \| | \| | 6.98 |
| 12.917 | 0.00 | 0.07 | 2.260 | O | \| | \| | \| | \| | 6.98 |
| 13.000 | 0.00 | 0.07 | 2.259 | O | \| | \| | \| | \| | 6.98 |
| 13.083 | 0.00 | 0.07 | 2.259 | O | \| | \| | \| | \| | 6.97 |
| 13.167 | 0.00 | 0.06 | 2.258 | O | \| | \| | \| | \| | 6.97 |
| 13.250 | 0.00 | 0.06 | 2.258 | O | \| | \| | \| | \| | 6.97 |
| 13.333 | 0.00 | 0.06 | 2.257 | O | \| | \| | \| | \| | 6.97 |
| 13.417 | 0.00 | 0.06 | 2.257 | O | \| | \| | \| | \| | 6.97 |
| 13.500 | 0.00 | 0.06 | 2.257 | O | \| | \| | \| | \| | 6.97 |
| 13.583 | 0.00 | 0.05 | 2.256 | O | \| | \| | \| | \| | 6.97 |
| 13.667 | 0.00 | 0.05 | 2.256 | O | \| | \| | \| | \| | 6.97 |
| 13.750 | 0.00 | 0.05 | 2.256 | O | \| | \| | \| | \| | 6.97 |
| 13.833 | 0.00 | 0.05 | 2.255 | O | \| | \| | \| | \| | 6.97 |
| 13.917 | 0.00 | 0.05 | 2.255 | O | \| | \| | \| | \| | 6.97 |
| 14.000 | 0.00 | 0.04 | 2.255 | O | \| | \| | \| | \| | 6.97 |
| 14.083 | 0.00 | 0.04 | 2.254 | O | \| | \| | \| | \| | 6.97 |
| 14.167 | 0.00 | 0.04 | 2.254 | O | \| | \| | \| | \| | 6.96 |
| 14.250 | 0.00 | 0.04 | 2.254 | O | \| | \| | \| | \| | 6.96 |
| 14.333 | 0.00 | 0.04 | 2.253 | O | \| | \| | \| | \| | 6.96 |
| 14.417 | 0.00 | 0.04 | 2.253 | O | \| | \| | \| | \| | 6.96 |
| 14.500 | 0.00 | 0.03 | 2.253 | O | \| | \| | \| | \| | 6.96 |
| 14.583 | 0.00 | 0.03 | 2.253 | O | \| | \| | \| | \| | 6.96 |
| 14.667 | 0.00 | 0.03 | 2.252 | O | \| | \| | \| | \| | 6.96 |
| 14.750 | 0.00 | 0.03 | 2.252 | O | \| | \| | \| | \| | 6.96 |
| 14.833 | 0.00 | 0.03 | 2.252 | O | \| | \| | \| | \| | 6.96 |
| 14.917 | 0.00 | 0.03 | 2.252 | O | \| | \| | \| | \| | 6.96 |
| 15.000 | 0.00 | 0.03 | 2.252 | O | \| | \| | \| | \| | 6.96 |
| 15.083 | 0.00 | 0.03 | 2.252 | O | \| | \| | \| | \| | 6.96 |
| 15.167 | 0.00 | 0.02 | 2.251 | O | \| | \| | \| | \| | 6.96 |
| 15.250 | 0.00 | 0.02 | 2.251 | O | \| | \| | \| | \| | 6.96 |
| 15.333 | 0.00 | 0.02 | 2.251 | O | \| | \| | \| | \| | 6.96 |
| 15.417 | 0.00 | 0.02 | 2.251 | O | \| | \| | \| | \| | 6.96 |
| 15.500 | 0.00 | 0.02 | 2.251 | O | \| | \| | \| | \| | 6.96 |
| 15.583 | 0.00 | 0.02 | 2.251 | O | \| | \| | \| | \| | 6.96 |
| 15.667 | 0.00 | 0.02 | 2.250 | O | \| | \| | \| | \| | 6.96 |
| 15.750 | 0.00 | 0.02 | 2.250 | O | \| | \| | \| | \| | 6.96 |
| 15.833 | 0.00 | 0.02 | 2.250 | O | \| | \| | \| | \| | 6.96 |
| 15.917 | 0.00 | 0.02 | 2.250 | O | \| | \| | \| | \| | 6.96 |
| 16.000 | 0.00 | 0.02 | 2.250 | O | \| | \| | \| | \| | 6.96 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 16.083 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 16.167 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 16.250 | 0.00 | 0.01 | 2.250 | O | | | | | 6.96 |
| 16.333 | 0.00 | 0.01 | 2.249 | O | | | | | 6.96 |
| 16.417 | 0.00 | 0.01 | 2.249 | O | | | | | 6.96 |
| 16.500 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 16.583 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 16.667 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 16.750 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 16.833 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 16.917 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 17.000 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 17.083 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 17.167 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 17.250 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 17.333 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 17.417 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 17.500 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 17.583 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 17.667 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 17.750 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 17.833 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 17.917 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 18.000 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 18.083 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 18.167 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 18.250 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 18.333 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 18.417 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 18.500 | 0.00 | 0.01 | 2.248 | O | | | | | 6.95 |
| 18.583 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 18.667 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 18.750 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 18.833 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 18.917 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 19.000 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 19.083 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 19.167 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 19.250 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 19.333 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 19.417 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 19.500 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 19.583 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 19.667 | 0.00 | 0.00 | 2.248 | O | | | | | 6.95 |
| 19.750 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 19.833 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 19.917 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.000 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.083 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.167 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.250 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.333 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.417 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.500 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.583 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.667 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.750 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.833 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 20.917 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 21.000 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 21.083 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 21.167 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 21.250 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 21.333 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 21.417 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 21.500 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 21.583 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 21.667 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |
| 21.750 | 0.00 | 0.00 | 2.247 | O | | | | | 6.95 |

```
21.833    0.00    0.00      2.247  O       |       |       |       |     6.95
21.917    0.00    0.00      2.247  O       |       |       |       |     6.95
22.000    0.00    0.00      2.247  O       |       |       |       |     6.95

        Remaining water in basin =    2.25 (Ac.Ft)


        ****************************HYDROGRAPH DATA****************************
                       Number of intervals =   264
                       Time interval =    5.0 (Min.)
                       Maximum/Peak flow rate =        4.324 (CFS)
                       Total volume =       0.531 (Ac.Ft)
                Status of hydrographs being held in storage
                           Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
                Peak (CFS)      0.000     0.000     0.000     0.000     0.000
                Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
        ************************************************************************

        ------------------------------------------------------------------
```

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 03/03/23

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225047 BREMCO CONSTRUCTION BROWN STRAUSS STEEL BANNING
BASIN ROUTING
100-YEAR, 24-HOUR STORM
BY: JTS  DATE: 03-03-23
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Program License Serial Number 6320

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******************** HYDROGRAPH INFORMATION **********************

From study/file name: devhyd24100.rte
****************************HYDROGRAPH DATA****************************
Number of intervals =   293
Time interval =    5.0 (Min.)
Maximum/Peak flow rate =       10.078 (CFS)
Total volume =       6.124 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
Peak (CFS)      0.000     0.000     0.000     0.000     0.000
Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
**********************************************************************

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       13.000 to Point/Station       15.000
**** RETARDING BASIN ROUTING ****
_____

Program computation of outflow v. depth

CALCULATED OUTFLOW DATA AT DEPTH =    0.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    1.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    2.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    3.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    4.50(Ft.))
Total outflow at this depth =      0.00(CFS)

CALCULATED OUTFLOW DATA AT DEPTH =    5.50(Ft.))
Total outflow at this depth =      0.00(CFS)

```
CALCULATED OUTFLOW DATA AT DEPTH =    6.50(Ft.))
Total outflow at this depth =      0.00(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    6.95(Ft.))
Total outflow at this depth =      0.00(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    7.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
Calculated individual pipe flow  =     1.508(CFS)
Normal flow depth in pipe =    2.57(In.)
Flow top width inside pipe =    8.74(In.)
Critical Depth =    0.55(Ft.)
Calculated flow rate through pipe(s) =      1.508(CFS)

Total outflow at this depth =      1.51(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    8.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is      7.130(Ft.)
Pipe friction loss =      2.827(Ft.)
Minor friction loss =      4.307(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =      7.417(CFS)

Total outflow at this depth =      7.42(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    9.50(Ft.))
Pipe length  =    24.67(Ft.)   Elevation difference =   5.58(Ft.)
Manning's N = 0.013   No. of pipes = 1
Given pipe size =     10.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is      8.130(Ft.)
Pipe friction loss =      3.223(Ft.)
Minor friction loss =      4.911(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =      7.920(CFS)

Total outflow at this depth =      7.92(CFS)

----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 293
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
----------------------------------------------------------------------
----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
----------------------------------------------------------------------
----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  0.500      0.092      0.000      0.092        0.092
  1.500      0.363      0.000      0.363        0.363
  2.500      0.698      0.000      0.698        0.698
  3.500      1.060      0.000      1.060        1.060
```

| | | | | |
|---|---|---|---|---|
| 4.500 | 1.436 | 0.000 | 1.436 | 1.436 |
| 5.500 | 1.812 | 0.000 | 1.812 | 1.812 |
| 6.500 | 2.083 | 0.000 | 2.083 | 2.083 |
| 6.950 | 2.247 | 0.000 | 2.247 | 2.247 |
| 7.500 | 2.509 | 1.508 | 2.504 | 2.514 |
| 8.500 | 2.780 | 7.417 | 2.754 | 2.806 |
| 9.500 | 2.964 | 7.920 | 2.937 | 2.991 |

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

| Time (Hours) | Inflow (CFS) | Outflow (CFS) | Storage (Ac.Ft) | .0 2.5 5.04 7.56 10.08 | Depth (Ft.) |
|---|---|---|---|---|---|
| 0.083 | 0.21 | 0.00 | 0.001 | O | 0.00 |
| 0.167 | 0.48 | 0.00 | 0.003 | OI | 0.02 |
| 0.250 | 0.55 | 0.00 | 0.007 | OI | 0.04 |
| 0.333 | 0.68 | 0.00 | 0.011 | O I | 0.06 |
| 0.417 | 0.83 | 0.00 | 0.016 | O I | 0.09 |
| 0.500 | 0.87 | 0.00 | 0.022 | O I | 0.12 |
| 0.583 | 0.88 | 0.00 | 0.028 | O I | 0.15 |
| 0.667 | 0.89 | 0.00 | 0.034 | O I | 0.18 |
| 0.750 | 0.89 | 0.00 | 0.040 | O I | 0.22 |
| 0.833 | 0.99 | 0.00 | 0.047 | O I | 0.25 |
| 0.917 | 1.13 | 0.00 | 0.054 | O I | 0.29 |
| 1.000 | 1.16 | 0.00 | 0.062 | O I | 0.34 |
| 1.083 | 1.07 | 0.00 | 0.069 | O I | 0.38 |
| 1.167 | 0.94 | 0.00 | 0.076 | O I | 0.42 |
| 1.250 | 0.91 | 0.00 | 0.083 | O I | 0.45 |
| 1.333 | 0.90 | 0.00 | 0.089 | O I | 0.48 |
| 1.417 | 0.89 | 0.00 | 0.095 | O I | 0.51 |
| 1.500 | 0.89 | 0.00 | 0.101 | O I | 0.53 |
| 1.583 | 0.89 | 0.00 | 0.107 | O I | 0.56 |
| 1.667 | 0.89 | 0.00 | 0.114 | O I | 0.58 |
| 1.750 | 0.89 | 0.00 | 0.120 | O I | 0.60 |
| 1.833 | 0.99 | 0.00 | 0.126 | O I | 0.63 |
| 1.917 | 1.13 | 0.00 | 0.133 | O I | 0.65 |
| 2.000 | 1.16 | 0.00 | 0.141 | O I | 0.68 |
| 2.083 | 1.18 | 0.00 | 0.149 | O I | 0.71 |
| 2.167 | 1.18 | 0.00 | 0.158 | O I | 0.74 |
| 2.250 | 1.19 | 0.00 | 0.166 | O I | 0.77 |
| 2.333 | 1.19 | 0.00 | 0.174 | O I | 0.80 |
| 2.417 | 1.19 | 0.00 | 0.182 | O I | 0.83 |
| 2.500 | 1.19 | 0.00 | 0.190 | O I | 0.86 |
| 2.583 | 1.29 | 0.00 | 0.199 | O I | 0.89 |
| 2.667 | 1.43 | 0.00 | 0.208 | O I | 0.93 |
| 2.750 | 1.46 | 0.00 | 0.218 | O I | 0.96 |
| 2.833 | 1.47 | 0.00 | 0.228 | O I | 1.00 |
| 2.917 | 1.48 | 0.00 | 0.238 | O I | 1.04 |
| 3.000 | 1.48 | 0.00 | 0.248 | O I | 1.08 |
| 3.083 | 1.48 | 0.00 | 0.259 | O I | 1.12 |
| 3.167 | 1.48 | 0.00 | 0.269 | O I | 1.15 |
| 3.250 | 1.48 | 0.00 | 0.279 | O I | 1.19 |
| 3.333 | 1.48 | 0.00 | 0.289 | O I | 1.23 |
| 3.417 | 1.48 | 0.00 | 0.300 | O I | 1.27 |
| 3.500 | 1.48 | 0.00 | 0.310 | O I | 1.30 |
| 3.583 | 1.48 | 0.00 | 0.320 | O I | 1.34 |
| 3.667 | 1.48 | 0.00 | 0.330 | O I | 1.38 |
| 3.750 | 1.48 | 0.00 | 0.340 | O I | 1.42 |
| 3.833 | 1.59 | 0.00 | 0.351 | O I | 1.46 |
| 3.917 | 1.72 | 0.00 | 0.362 | O I | 1.50 |
| 4.000 | 1.76 | 0.00 | 0.374 | O I | 1.53 |
| 4.083 | 1.77 | 0.00 | 0.386 | O I | 1.57 |
| 4.167 | 1.78 | 0.00 | 0.399 | O I | 1.61 |
| 4.250 | 1.78 | 0.00 | 0.411 | O I | 1.64 |
| 4.333 | 1.88 | 0.00 | 0.423 | O I | 1.68 |
| 4.417 | 2.02 | 0.00 | 0.437 | O I | 1.72 |
| 4.500 | 2.05 | 0.00 | 0.451 | O I | 1.76 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4.583 | 2.07 | 0.00 | 0.465 | O | I | \| | \| | \| | \| | 1.80 |
| 4.667 | 2.07 | 0.00 | 0.479 | O | I | \| | \| | \| | \| | 1.85 |
| 4.750 | 2.07 | 0.00 | 0.494 | O | I | \| | \| | \| | \| | 1.89 |
| 4.833 | 2.18 | 0.00 | 0.508 | O | I | \| | \| | \| | \| | 1.93 |
| 4.917 | 2.32 | 0.00 | 0.524 | O | I | \| | \| | \| | \| | 1.98 |
| 5.000 | 2.35 | 0.00 | 0.540 | O | I | \| | \| | \| | \| | 2.03 |
| 5.083 | 2.15 | 0.00 | 0.555 | O | I | \| | \| | \| | \| | 2.07 |
| 5.167 | 1.89 | 0.00 | 0.569 | O | I | \| | \| | \| | \| | 2.12 |
| 5.250 | 1.82 | 0.00 | 0.582 | O | I | \| | \| | \| | \| | 2.15 |
| 5.333 | 1.90 | 0.00 | 0.595 | O | I | \| | \| | \| | \| | 2.19 |
| 5.417 | 2.03 | 0.00 | 0.608 | O | I | \| | \| | \| | \| | 2.23 |
| 5.500 | 2.05 | 0.00 | 0.622 | O | I | \| | \| | \| | \| | 2.27 |
| 5.583 | 2.17 | 0.00 | 0.637 | O | I | \| | \| | \| | \| | 2.32 |
| 5.667 | 2.31 | 0.00 | 0.652 | O | I | \| | \| | \| | \| | 2.36 |
| 5.750 | 2.35 | 0.00 | 0.668 | O | I | \| | \| | \| | \| | 2.41 |
| 5.833 | 2.36 | 0.00 | 0.685 | O | I | \| | \| | \| | \| | 2.46 |
| 5.917 | 2.37 | 0.00 | 0.701 | O | I | \| | \| | \| | \| | 2.51 |
| 6.000 | 2.37 | 0.00 | 0.717 | O | I | \| | \| | \| | \| | 2.55 |
| 6.083 | 2.47 | 0.00 | 0.734 | O | I | \| | \| | \| | \| | 2.60 |
| 6.167 | 2.61 | 0.00 | 0.751 | O | I | \| | \| | \| | \| | 2.65 |
| 6.250 | 2.64 | 0.00 | 0.770 | O | I | \| | \| | \| | \| | 2.70 |
| 6.333 | 2.66 | 0.00 | 0.788 | O | I | \| | \| | \| | \| | 2.75 |
| 6.417 | 2.66 | 0.00 | 0.806 | O | I | \| | \| | \| | \| | 2.80 |
| 6.500 | 2.67 | 0.00 | 0.824 | O | I | \| | \| | \| | \| | 2.85 |
| 6.583 | 2.77 | 0.00 | 0.843 | O | I | \| | \| | \| | \| | 2.90 |
| 6.667 | 2.91 | 0.00 | 0.863 | O | I | \| | \| | \| | \| | 2.96 |
| 6.750 | 2.94 | 0.00 | 0.883 | O | I | \| | \| | \| | \| | 3.01 |
| 6.833 | 2.95 | 0.00 | 0.903 | O | I | \| | \| | \| | \| | 3.07 |
| 6.917 | 2.96 | 0.00 | 0.924 | O | I | \| | \| | \| | \| | 3.12 |
| 7.000 | 2.96 | 0.00 | 0.944 | O | I | \| | \| | \| | \| | 3.18 |
| 7.083 | 2.96 | 0.00 | 0.964 | O | I | \| | \| | \| | \| | 3.24 |
| 7.167 | 2.96 | 0.00 | 0.985 | O | I | \| | \| | \| | \| | 3.29 |
| 7.250 | 2.96 | 0.00 | 1.005 | O | I | \| | \| | \| | \| | 3.35 |
| 7.333 | 3.07 | 0.00 | 1.026 | O | I | \| | \| | \| | \| | 3.41 |
| 7.417 | 3.21 | 0.00 | 1.048 | O | I | \| | \| | \| | \| | 3.47 |
| 7.500 | 3.24 | 0.00 | 1.070 | O | I | \| | \| | \| | \| | 3.53 |
| 7.583 | 3.35 | 0.00 | 1.092 | O | I | \| | \| | \| | \| | 3.59 |
| 7.667 | 3.50 | 0.00 | 1.116 | O | I | \| | \| | \| | \| | 3.65 |
| 7.750 | 3.53 | 0.00 | 1.140 | O | I | \| | \| | \| | \| | 3.71 |
| 7.833 | 3.65 | 0.00 | 1.165 | O | I | \| | \| | \| | \| | 3.78 |
| 7.917 | 3.80 | 0.00 | 1.191 | O | I | \| | \| | \| | \| | 3.85 |
| 8.000 | 3.83 | 0.00 | 1.217 | O | I | \| | \| | \| | \| | 3.92 |
| 8.083 | 4.05 | 0.00 | 1.244 | O | I | \| | \| | \| | \| | 3.99 |
| 8.167 | 4.33 | 0.00 | 1.273 | O | I | \| | \| | \| | \| | 4.07 |
| 8.250 | 4.40 | 0.00 | 1.303 | O | I | \| | \| | \| | \| | 4.15 |
| 8.333 | 4.43 | 0.00 | 1.333 | O | I | \| | \| | \| | \| | 4.23 |
| 8.417 | 4.44 | 0.00 | 1.364 | O | I | \| | \| | \| | \| | 4.31 |
| 8.500 | 4.45 | 0.00 | 1.395 | O | I | \| | \| | \| | \| | 4.39 |
| 8.583 | 4.55 | 0.00 | 1.426 | O | I | \| | \| | \| | \| | 4.47 |
| 8.667 | 4.69 | 0.00 | 1.457 | O | I | \| | \| | \| | \| | 4.56 |
| 8.750 | 4.72 | 0.00 | 1.490 | O | I | \| | \| | \| | \| | 4.64 |
| 8.833 | 4.84 | 0.00 | 1.523 | O | I | \| | \| | \| | \| | 4.73 |
| 8.917 | 4.98 | 0.00 | 1.556 | O | I | \| | \| | \| | \| | 4.82 |
| 9.000 | 5.02 | 0.00 | 1.591 | O | I | \| | \| | \| | \| | 4.91 |
| 9.083 | 5.24 | 0.00 | 1.626 | O | I | \| | \| | \| | \| | 5.01 |
| 9.167 | 5.52 | 0.00 | 1.663 | O | I | \| | \| | \| | \| | 5.10 |
| 9.250 | 5.59 | 0.00 | 1.701 | O | I | \| | \| | \| | \| | 5.21 |
| 9.333 | 5.72 | 0.00 | 1.740 | O | I | \| | \| | \| | \| | 5.31 |
| 9.417 | 5.87 | 0.00 | 1.780 | O | I | \| | \| | \| | \| | 5.42 |
| 9.500 | 5.90 | 0.00 | 1.821 | O | I | \| | \| | \| | \| | 5.53 |
| 9.583 | 6.02 | 0.00 | 1.862 | O | I | \| | \| | \| | \| | 5.68 |
| 9.667 | 6.17 | 0.00 | 1.904 | O | I | \| | \| | \| | \| | 5.84 |
| 9.750 | 6.20 | 0.00 | 1.946 | O | I | \| | \| | \| | \| | 6.00 |
| 9.833 | 6.32 | 0.00 | 1.990 | O | I | \| | \| | \| | \| | 6.16 |
| 9.917 | 6.46 | 0.00 | 2.034 | O | I | \| | \| | \| | \| | 6.32 |
| 10.000 | 6.50 | 0.00 | 2.078 | O | I | \| | \| | \| | \| | 6.48 |
| 10.083 | 5.79 | 0.00 | 2.120 | O | I | \| | \| | \| | \| | 6.60 |
| 10.167 | 4.83 | 0.00 | 2.157 | O | I | \| | \| | \| | \| | 6.70 |
| 10.250 | 4.61 | 0.00 | 2.190 | O | I | \| | \| | \| | \| | 6.79 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 10.333 | 4.51 | 0.00 | 2.221 | O | \| | I \| | \| | 6.88 |
| 10.417 | 4.47 | 0.03 | 2.252 | O | \| | I \| | \| | 6.96 |
| 10.500 | 4.45 | 0.20 | 2.282 | O | \| | I \| | \| | 7.02 |
| 10.583 | 4.96 | 0.37 | 2.312 | \|O | \| | I\| | \| | 7.09 |
| 10.667 | 5.65 | 0.57 | 2.345 | \|O | \| | \|I | \| | 7.16 |
| 10.750 | 5.81 | 0.77 | 2.380 | \| O | \| | \| I | \| | 7.23 |
| 10.833 | 5.88 | 0.96 | 2.415 | \| O | \| | \| I | \| | 7.30 |
| 10.917 | 5.91 | 1.16 | 2.448 | \| O | \| | \| I | \| | 7.37 |
| 11.000 | 5.93 | 1.34 | 2.480 | \| O | \| | \| I | \| | 7.44 |
| 11.083 | 5.82 | 1.54 | 2.511 | \| O | \| | \| I | \| | 7.51 |
| 11.167 | 5.69 | 2.13 | 2.538 | \| O \| | | \| I | \| | 7.61 |
| 11.250 | 5.65 | 2.63 | 2.560 | \| O | \| | \|I | \| | 7.69 |
| 11.333 | 5.64 | 3.05 | 2.580 | \| \|O | \| | \|I | \| | 7.76 |
| 11.417 | 5.63 | 3.41 | 2.596 | \| \| O | \| | \|I | \| | 7.82 |
| 11.500 | 5.63 | 3.72 | 2.610 | \| \| O | \| | \|I | \| | 7.87 |
| 11.583 | 5.42 | 3.97 | 2.622 | \| \| O | \| | \|I | \| | 7.92 |
| 11.667 | 5.15 | 4.16 | 2.630 | \| \| O | I | \| | \| | 7.95 |
| 11.750 | 5.09 | 4.29 | 2.637 | \| \| O | I | \| | \| | 7.97 |
| 11.833 | 5.16 | 4.41 | 2.642 | \| \| O | I | \| | \| | 7.99 |
| 11.917 | 5.29 | 4.52 | 2.647 | \| \| O | I | \| | \| | 8.01 |
| 12.000 | 5.31 | 4.63 | 2.652 | \| \| O | I | \| | \| | 8.03 |
| 12.083 | 6.05 | 4.78 | 2.659 | \| \| O\| | I | \| | \| | 8.05 |
| 12.167 | 7.02 | 5.02 | 2.670 | \| \| O\| | I \| | \| | 8.09 |
| 12.250 | 7.25 | 5.32 | 2.684 | \| \| O | I\| | \| | 8.14 |
| 12.333 | 7.45 | 5.60 | 2.697 | \| \| \|O | I\| | \| | 8.19 |
| 12.417 | 7.63 | 5.87 | 2.709 | \| \| \| O | I | \| | 8.24 |
| 12.500 | 7.68 | 6.12 | 2.721 | \| \| \| O | I | \| | 8.28 |
| 12.583 | 7.90 | 6.35 | 2.731 | \| \| \| O | \|I | \| | 8.32 |
| 12.667 | 8.19 | 6.59 | 2.742 | \| \| \| O | \|I | \| | 8.36 |
| 12.750 | 8.25 | 6.82 | 2.753 | \| \| \| O | I | \| | 8.40 |
| 12.833 | 8.38 | 7.03 | 2.762 | \| \| \| O | I | \| | 8.43 |
| 12.917 | 8.54 | 7.23 | 2.771 | \| \| \| O | I | \| | 8.47 |
| 13.000 | 8.57 | 7.41 | 2.780 | \| \| \| O | I | \| | 8.50 |
| 13.083 | 9.10 | 7.44 | 2.790 | \| \| \| O | I | \| | 8.55 |
| 13.167 | 9.80 | 7.48 | 2.803 | \| \| \| O | I\| | 8.63 |
| 13.250 | 9.96 | 7.53 | 2.820 | \| \| \| O | I\| | 8.72 |
| 13.333 | 10.03 | 7.57 | 2.836 | \| \| \| O | I\| | 8.81 |
| 13.417 | 10.06 | 7.62 | 2.853 | \| \| \| O | I\| | 8.90 |
| 13.500 | 10.08 | 7.66 | 2.870 | \| \| \| O | I | 8.99 |
| 13.583 | 8.94 | 7.70 | 2.883 | \| \| \| O | I | \| | 9.06 |
| 13.667 | 7.42 | 7.71 | 2.886 | \| \| \| IO | \| | 9.08 |
| 13.750 | 7.07 | 7.70 | 2.883 | \| \| \| I O | \| | 9.06 |
| 13.833 | 6.92 | 7.68 | 2.878 | \| \| \| I O | \| | 9.03 |
| 13.917 | 6.85 | 7.67 | 2.873 | \| \| \| I O | \| | 9.00 |
| 14.000 | 6.82 | 7.65 | 2.867 | \| \| \| I O | \| | 8.97 |
| 14.083 | 7.23 | 7.64 | 2.863 | \| \| \| I O | \| | 8.95 |
| 14.167 | 7.78 | 7.64 | 2.862 | \| \| \| O | \| | 8.94 |
| 14.250 | 7.91 | 7.64 | 2.863 | \| \| \| OI | \| | 8.95 |
| 14.333 | 7.86 | 7.65 | 2.865 | \| \| \| O | \| | 8.96 |
| 14.417 | 7.75 | 7.65 | 2.866 | \| \| \| O | \| | 8.97 |
| 14.500 | 7.73 | 7.65 | 2.866 | \| \| \| O | \| | 8.97 |
| 14.583 | 7.72 | 7.65 | 2.867 | \| \| \| O | \| | 8.97 |
| 14.667 | 7.71 | 7.66 | 2.867 | \| \| \| O | \| | 8.97 |
| 14.750 | 7.71 | 7.66 | 2.868 | \| \| \| O | \| | 8.98 |
| 14.833 | 7.60 | 7.66 | 2.868 | \| \| \| O | \| | 8.98 |
| 14.917 | 7.47 | 7.65 | 2.867 | \| \| \| IO | \| | 8.97 |
| 15.000 | 7.43 | 7.65 | 2.865 | \| \| \| IO | \| | 8.96 |
| 15.083 | 7.32 | 7.65 | 2.864 | \| \| \| IO | \| | 8.95 |
| 15.167 | 7.17 | 7.64 | 2.861 | \| \| \| I O | \| | 8.94 |
| 15.250 | 7.14 | 7.63 | 2.857 | \| \| \| I O | \| | 8.92 |
| 15.333 | 7.02 | 7.62 | 2.854 | \| \| \| I O | \| | 8.90 |
| 15.417 | 6.88 | 7.61 | 2.849 | \| \| \| I O | \| | 8.88 |
| 15.500 | 6.84 | 7.59 | 2.844 | \| \| \| I O | \| | 8.85 |
| 15.583 | 6.41 | 7.57 | 2.837 | \| \| \| I O | \| | 8.81 |
| 15.667 | 5.85 | 7.55 | 2.828 | \| \| \| I O\| | \| | 8.76 |
| 15.750 | 5.72 | 7.51 | 2.816 | \| \| \| I O\| | \| | 8.69 |
| 15.833 | 5.67 | 7.48 | 2.803 | \| \| \| I O\| | \| | 8.63 |
| 15.917 | 5.64 | 7.45 | 2.791 | \| \| \|I O\| | \| | 8.56 |
| 16.000 | 5.63 | 7.39 | 2.779 | \| \| \|I O\| | \| | 8.49 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 16.083 | 4.08 | 7.03 | 2.762 | | I | O | | 8.43 |
| 16.167 | 2.01 | 6.47 | 2.737 | I | | O | | 8.34 |
| 16.250 | 1.53 | 5.82 | 2.707 | I | | O | | 8.23 |
| 16.333 | 1.33 | 5.21 | 2.679 | I | | O | | 8.13 |
| 16.417 | 1.23 | 4.66 | 2.653 | I | O | | | 8.03 |
| 16.500 | 1.19 | 4.17 | 2.631 | I | O | | | 7.95 |
| 16.583 | 1.08 | 3.75 | 2.612 | I | O | | | 7.88 |
| 16.667 | 0.94 | 3.37 | 2.594 | I | O | | | 7.81 |
| 16.750 | 0.91 | 3.03 | 2.579 | I | O | | | 7.76 |
| 16.833 | 0.90 | 2.73 | 2.565 | I | O | | | 7.71 |
| 16.917 | 0.89 | 2.47 | 2.553 | I | O | | | 7.66 |
| 17.000 | 0.89 | 2.25 | 2.543 | I | O | | | 7.63 |
| 17.083 | 1.10 | 2.08 | 2.535 | I | O | | | 7.60 |
| 17.167 | 1.37 | 1.96 | 2.530 | I | O | | | 7.58 |
| 17.250 | 1.44 | 1.88 | 2.526 | IO | | | | 7.56 |
| 17.333 | 1.46 | 1.82 | 2.523 | IO | | | | 7.55 |
| 17.417 | 1.48 | 1.77 | 2.521 | IO | | | | 7.54 |
| 17.500 | 1.48 | 1.73 | 2.519 | IO | | | | 7.54 |
| 17.583 | 1.48 | 1.70 | 2.518 | IO | | | | 7.53 |
| 17.667 | 1.48 | 1.67 | 2.516 | IO | | | | 7.53 |
| 17.750 | 1.48 | 1.64 | 2.515 | IO | | | | 7.52 |
| 17.833 | 1.38 | 1.61 | 2.514 | IO | | | | 7.52 |
| 17.917 | 1.24 | 1.57 | 2.512 | IO | | | | 7.51 |
| 18.000 | 1.21 | 1.52 | 2.510 | IO | | | | 7.50 |
| 18.083 | 1.20 | 1.50 | 2.507 | IO | | | | 7.50 |
| 18.167 | 1.19 | 1.49 | 2.505 | IO | | | | 7.49 |
| 18.250 | 1.19 | 1.48 | 2.503 | IO | | | | 7.49 |
| 18.333 | 1.19 | 1.46 | 2.501 | IO | | | | 7.48 |
| 18.417 | 1.19 | 1.45 | 2.500 | IO | | | | 7.48 |
| 18.500 | 1.19 | 1.44 | 2.498 | IO | | | | 7.48 |
| 18.583 | 1.08 | 1.43 | 2.496 | IO | | | | 7.47 |
| 18.667 | 0.94 | 1.42 | 2.493 | I O | | | | 7.47 |
| 18.750 | 0.91 | 1.40 | 2.489 | I O | | | | 7.46 |
| 18.833 | 0.80 | 1.38 | 2.486 | I O | | | | 7.45 |
| 18.917 | 0.65 | 1.35 | 2.481 | I O | | | | 7.44 |
| 19.000 | 0.62 | 1.32 | 2.477 | I O | | | | 7.43 |
| 19.083 | 0.71 | 1.30 | 2.472 | I O | | | | 7.42 |
| 19.167 | 0.84 | 1.28 | 2.469 | I O | | | | 7.42 |
| 19.250 | 0.87 | 1.26 | 2.466 | IO | | | | 7.41 |
| 19.333 | 0.98 | 1.25 | 2.463 | O | | | | 7.40 |
| 19.417 | 1.13 | 1.24 | 2.462 | O | | | | 7.40 |
| 19.500 | 1.16 | 1.24 | 2.462 | O | | | | 7.40 |
| 19.583 | 1.07 | 1.23 | 2.461 | O | | | | 7.40 |
| 19.667 | 0.94 | 1.22 | 2.459 | IO | | | | 7.40 |
| 19.750 | 0.91 | 1.21 | 2.457 | IO | | | | 7.39 |
| 19.833 | 0.80 | 1.20 | 2.455 | IO | | | | 7.39 |
| 19.917 | 0.65 | 1.18 | 2.452 | IO | | | | 7.38 |
| 20.000 | 0.62 | 1.16 | 2.448 | I O | | | | 7.37 |
| 20.083 | 0.71 | 1.14 | 2.445 | IO | | | | 7.36 |
| 20.167 | 0.84 | 1.12 | 2.442 | IO | | | | 7.36 |
| 20.250 | 0.87 | 1.11 | 2.440 | IO | | | | 7.36 |
| 20.333 | 0.88 | 1.10 | 2.439 | IO | | | | 7.35 |
| 20.417 | 0.89 | 1.09 | 2.437 | IO | | | | 7.35 |
| 20.500 | 0.89 | 1.09 | 2.436 | IO | | | | 7.35 |
| 20.583 | 0.89 | 1.08 | 2.434 | IO | | | | 7.34 |
| 20.667 | 0.89 | 1.07 | 2.433 | IO | | | | 7.34 |
| 20.750 | 0.89 | 1.06 | 2.432 | IO | | | | 7.34 |
| 20.833 | 0.79 | 1.06 | 2.430 | IO | | | | 7.33 |
| 20.917 | 0.65 | 1.04 | 2.428 | IO | | | | 7.33 |
| 21.000 | 0.62 | 1.03 | 2.425 | I O | | | | 7.32 |
| 21.083 | 0.71 | 1.01 | 2.423 | IO | | | | 7.32 |
| 21.167 | 0.84 | 1.00 | 2.421 | IO | | | | 7.32 |
| 21.250 | 0.87 | 1.00 | 2.420 | IO | | | | 7.31 |
| 21.333 | 0.78 | 0.99 | 2.419 | IO | | | | 7.31 |
| 21.417 | 0.65 | 0.98 | 2.417 | IO | | | | 7.31 |
| 21.500 | 0.62 | 0.97 | 2.415 | I O | | | | 7.30 |
| 21.583 | 0.71 | 0.95 | 2.413 | IO | | | | 7.30 |
| 21.667 | 0.84 | 0.95 | 2.411 | IO | | | | 7.30 |
| 21.750 | 0.87 | 0.94 | 2.411 | O | | | | 7.29 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 21.833 | 0.78 | 0.94 | 2.410 | \| O | \| | \| | \| | 7.29 |
| 21.917 | 0.65 | 0.93 | 2.408 | \| O | \| | \| | \| | 7.29 |
| 22.000 | 0.62 | 0.92 | 2.406 | \|IO | \| | \| | \| | 7.28 |
| 22.083 | 0.71 | 0.91 | 2.405 | \| O | \| | \| | \| | 7.28 |
| 22.167 | 0.84 | 0.90 | 2.404 | \| O | \| | \| | \| | 7.28 |
| 22.250 | 0.87 | 0.90 | 2.403 | \| O | \| | \| | \| | 7.28 |
| 22.333 | 0.78 | 0.90 | 2.403 | \| O | \| | \| | \| | 7.28 |
| 22.417 | 0.65 | 0.89 | 2.402 | \| O | \| | \| | \| | 7.27 |
| 22.500 | 0.62 | 0.88 | 2.400 | \|IO | \| | \| | \| | 7.27 |
| 22.583 | 0.60 | 0.87 | 2.398 | \|IO | \| | \| | \| | 7.27 |
| 22.667 | 0.60 | 0.86 | 2.396 | \|IO | \| | \| | \| | 7.26 |
| 22.750 | 0.59 | 0.85 | 2.394 | \|IO | \| | \| | \| | 7.26 |
| 22.833 | 0.59 | 0.84 | 2.393 | \|IO | \| | \| | \| | 7.26 |
| 22.917 | 0.59 | 0.83 | 2.391 | \|IO | \| | \| | \| | 7.25 |
| 23.000 | 0.59 | 0.82 | 2.389 | \|IO | \| | \| | \| | 7.25 |
| 23.083 | 0.59 | 0.81 | 2.388 | \|IO | \| | \| | \| | 7.25 |
| 23.167 | 0.59 | 0.80 | 2.386 | \|IO | \| | \| | \| | 7.24 |
| 23.250 | 0.59 | 0.79 | 2.385 | \|IO | \| | \| | \| | 7.24 |
| 23.333 | 0.59 | 0.79 | 2.384 | \|IO | \| | \| | \| | 7.24 |
| 23.417 | 0.59 | 0.78 | 2.382 | \|IO | \| | \| | \| | 7.23 |
| 23.500 | 0.59 | 0.77 | 2.381 | \|IO | \| | \| | \| | 7.23 |
| 23.583 | 0.59 | 0.77 | 2.380 | \|IO | \| | \| | \| | 7.23 |
| 23.667 | 0.59 | 0.76 | 2.379 | \|IO | \| | \| | \| | 7.23 |
| 23.750 | 0.59 | 0.75 | 2.378 | \|IO | \| | \| | \| | 7.22 |
| 23.833 | 0.59 | 0.75 | 2.377 | \|IO | \| | \| | \| | 7.22 |
| 23.917 | 0.59 | 0.74 | 2.375 | \|IO | \| | \| | \| | 7.22 |
| 24.000 | 0.59 | 0.73 | 2.374 | \|IO | \| | \| | \| | 7.22 |
| 24.083 | 0.39 | 0.72 | 2.373 | \|IO | \| | \| | \| | 7.21 |
| 24.167 | 0.11 | 0.71 | 2.370 | I O | \| | \| | \| | 7.21 |
| 24.250 | 0.05 | 0.68 | 2.365 | I O | \| | \| | \| | 7.20 |
| 24.333 | 0.02 | 0.66 | 2.361 | I O | \| | \| | \| | 7.19 |
| 24.417 | 0.01 | 0.63 | 2.357 | I O | \| | \| | \| | 7.18 |
| 24.500 | 0.00 | 0.61 | 2.352 | IO | \| | \| | \| | 7.17 |
| 24.583 | 0.00 | 0.58 | 2.348 | IO | \| | \| | \| | 7.16 |
| 24.667 | 0.00 | 0.56 | 2.344 | IO | \| | \| | \| | 7.15 |
| 24.750 | 0.00 | 0.54 | 2.341 | IO | \| | \| | \| | 7.15 |
| 24.833 | 0.00 | 0.52 | 2.337 | IO | \| | \| | \| | 7.14 |
| 24.917 | 0.00 | 0.50 | 2.333 | IO | \| | \| | \| | 7.13 |
| 25.000 | 0.00 | 0.48 | 2.330 | IO | \| | \| | \| | 7.12 |
| 25.083 | 0.00 | 0.46 | 2.327 | IO | \| | \| | \| | 7.12 |
| 25.167 | 0.00 | 0.44 | 2.324 | IO | \| | \| | \| | 7.11 |
| 25.250 | 0.00 | 0.42 | 2.321 | IO | \| | \| | \| | 7.10 |
| 25.333 | 0.00 | 0.41 | 2.318 | IO | \| | \| | \| | 7.10 |
| 25.417 | 0.00 | 0.39 | 2.315 | IO | \| | \| | \| | 7.09 |
| 25.500 | 0.00 | 0.38 | 2.312 | IO | \| | \| | \| | 7.09 |
| 25.583 | 0.00 | 0.36 | 2.310 | IO | \| | \| | \| | 7.08 |
| 25.667 | 0.00 | 0.35 | 2.307 | IO | \| | \| | \| | 7.08 |
| 25.750 | 0.00 | 0.33 | 2.305 | IO | \| | \| | \| | 7.07 |
| 25.833 | 0.00 | 0.32 | 2.303 | IO | \| | \| | \| | 7.07 |
| 25.917 | 0.00 | 0.31 | 2.301 | O | \| | \| | \| | 7.06 |
| 26.000 | 0.00 | 0.30 | 2.299 | O | \| | \| | \| | 7.06 |
| 26.083 | 0.00 | 0.29 | 2.297 | O | \| | \| | \| | 7.05 |
| 26.167 | 0.00 | 0.27 | 2.295 | O | \| | \| | \| | 7.05 |
| 26.250 | 0.00 | 0.26 | 2.293 | O | \| | \| | \| | 7.05 |
| 26.333 | 0.00 | 0.25 | 2.291 | O | \| | \| | \| | 7.04 |
| 26.417 | 0.00 | 0.24 | 2.289 | O | \| | \| | \| | 7.04 |
| 26.500 | 0.00 | 0.23 | 2.288 | O | \| | \| | \| | 7.04 |
| 26.583 | 0.00 | 0.23 | 2.286 | O | \| | \| | \| | 7.03 |
| 26.667 | 0.00 | 0.22 | 2.285 | O | \| | \| | \| | 7.03 |
| 26.750 | 0.00 | 0.21 | 2.283 | O | \| | \| | \| | 7.03 |
| 26.833 | 0.00 | 0.20 | 2.282 | O | \| | \| | \| | 7.02 |
| 26.917 | 0.00 | 0.19 | 2.280 | O | \| | \| | \| | 7.02 |
| 27.000 | 0.00 | 0.18 | 2.279 | O | \| | \| | \| | 7.02 |
| 27.083 | 0.00 | 0.18 | 2.278 | O | \| | \| | \| | 7.01 |
| 27.167 | 0.00 | 0.17 | 2.277 | O | \| | \| | \| | 7.01 |
| 27.250 | 0.00 | 0.16 | 2.275 | O | \| | \| | \| | 7.01 |
| 27.333 | 0.00 | 0.16 | 2.274 | O | \| | \| | \| | 7.01 |
| 27.417 | 0.00 | 0.15 | 2.273 | O | \| | \| | \| | 7.01 |
| 27.500 | 0.00 | 0.15 | 2.272 | O | \| | \| | \| | 7.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 27.583 | 0.00 | 0.14 | 2.271 | O | | | | | 7.00 |
| 27.667 | 0.00 | 0.13 | 2.270 | O | | | | | 7.00 |
| 27.750 | 0.00 | 0.13 | 2.269 | O | | | | | 7.00 |
| 27.833 | 0.00 | 0.12 | 2.269 | O | | | | | 7.00 |
| 27.917 | 0.00 | 0.12 | 2.268 | O | | | | | 6.99 |
| 28.000 | 0.00 | 0.11 | 2.267 | O | | | | | 6.99 |
| 28.083 | 0.00 | 0.11 | 2.266 | O | | | | | 6.99 |
| 28.167 | 0.00 | 0.11 | 2.265 | O | | | | | 6.99 |
| 28.250 | 0.00 | 0.10 | 2.265 | O | | | | | 6.99 |
| 28.333 | 0.00 | 0.10 | 2.264 | O | | | | | 6.99 |
| 28.417 | 0.00 | 0.09 | 2.263 | O | | | | | 6.98 |
| 28.500 | 0.00 | 0.09 | 2.263 | O | | | | | 6.98 |
| 28.583 | 0.00 | 0.09 | 2.262 | O | | | | | 6.98 |
| 28.667 | 0.00 | 0.08 | 2.262 | O | | | | | 6.98 |
| 28.750 | 0.00 | 0.08 | 2.261 | O | | | | | 6.98 |
| 28.833 | 0.00 | 0.08 | 2.260 | O | | | | | 6.98 |
| 28.917 | 0.00 | 0.07 | 2.260 | O | | | | | 6.98 |
| 29.000 | 0.00 | 0.07 | 2.259 | O | | | | | 6.98 |
| 29.083 | 0.00 | 0.07 | 2.259 | O | | | | | 6.97 |
| 29.167 | 0.00 | 0.07 | 2.258 | O | | | | | 6.97 |
| 29.250 | 0.00 | 0.06 | 2.258 | O | | | | | 6.97 |
| 29.333 | 0.00 | 0.06 | 2.258 | O | | | | | 6.97 |
| 29.417 | 0.00 | 0.06 | 2.257 | O | | | | | 6.97 |
| 29.500 | 0.00 | 0.06 | 2.257 | O | | | | | 6.97 |
| 29.583 | 0.00 | 0.05 | 2.256 | O | | | | | 6.97 |
| 29.667 | 0.00 | 0.05 | 2.256 | O | | | | | 6.97 |
| 29.750 | 0.00 | 0.05 | 2.256 | O | | | | | 6.97 |
| 29.833 | 0.00 | 0.05 | 2.255 | O | | | | | 6.97 |
| 29.917 | 0.00 | 0.05 | 2.255 | O | | | | | 6.97 |
| 30.000 | 0.00 | 0.04 | 2.255 | O | | | | | 6.97 |
| 30.083 | 0.00 | 0.04 | 2.254 | O | | | | | 6.97 |
| 30.167 | 0.00 | 0.04 | 2.254 | O | | | | | 6.96 |
| 30.250 | 0.00 | 0.04 | 2.254 | O | | | | | 6.96 |
| 30.333 | 0.00 | 0.04 | 2.254 | O | | | | | 6.96 |
| 30.417 | 0.00 | 0.04 | 2.253 | O | | | | | 6.96 |
| 30.500 | 0.00 | 0.03 | 2.253 | O | | | | | 6.96 |
| 30.583 | 0.00 | 0.03 | 2.253 | O | | | | | 6.96 |
| 30.667 | 0.00 | 0.03 | 2.253 | O | | | | | 6.96 |
| 30.750 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 30.833 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 30.917 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 31.000 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 31.083 | 0.00 | 0.03 | 2.252 | O | | | | | 6.96 |
| 31.167 | 0.00 | 0.03 | 2.251 | O | | | | | 6.96 |
| 31.250 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 31.333 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 31.417 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 31.500 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 31.583 | 0.00 | 0.02 | 2.251 | O | | | | | 6.96 |
| 31.667 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 31.750 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 31.833 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 31.917 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 32.000 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 32.083 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 32.167 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 32.250 | 0.00 | 0.02 | 2.250 | O | | | | | 6.96 |
| 32.333 | 0.00 | 0.01 | 2.250 | O | | | | | 6.96 |
| 32.417 | 0.00 | 0.01 | 2.249 | O | | | | | 6.96 |
| 32.500 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.583 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.667 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.750 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.833 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 32.917 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 33.000 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 33.083 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 33.167 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |
| 33.250 | 0.00 | 0.01 | 2.249 | O | | | | | 6.95 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 33.333 | 0.00 | 0.01 | 2.249 | O | \| | \| | \| | \| | 6.95 |
| 33.417 | 0.00 | 0.01 | 2.249 | O | \| | \| | \| | \| | 6.95 |
| 33.500 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.583 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.667 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.750 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.833 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 33.917 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.000 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.083 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.167 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.250 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.333 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.417 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.500 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.583 | 0.00 | 0.01 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.667 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.750 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.833 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 34.917 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 35.000 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 35.083 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 35.167 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 35.250 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 35.333 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 35.417 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 35.500 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 35.583 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 35.667 | 0.00 | 0.00 | 2.248 | O | \| | \| | \| | \| | 6.95 |
| 35.750 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.833 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 35.917 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.000 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.083 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.167 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.250 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.333 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.417 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.500 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.583 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.667 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.750 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.833 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 36.917 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.000 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.083 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.167 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.250 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.333 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.417 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.500 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.583 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.667 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.750 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.833 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 37.917 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |
| 38.000 | 0.00 | 0.00 | 2.247 | O | \| | \| | \| | \| | 6.95 |

Remaining water in basin = 2.25 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 456
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 7.707 (CFS)
Total volume = 3.877 (Ac.Ft)

Status of hydrographs being held in storage

| Stream 1 | Stream 2 | Stream 3 | Stream 4 | Stream 5 |
|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Peak (CFS) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Vol (Ac.Ft) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**********

---

# ATTACHMENT 6

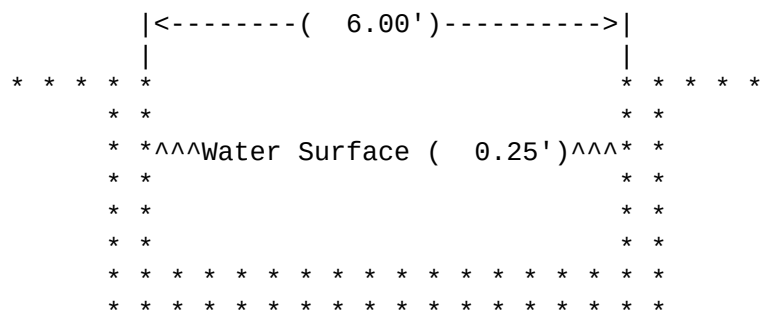
Parkway Culvert
Capacity Calculations

Underground Chamber
Sizing Calculations

Catch Basin
Capacity Charts

Joseph E. Bonadiman & Assoc., Inc.
Consulting Engineers
234 N. Arrowhead Ave.
San Bernardino, California 92408
(909)885-3806

# 6' PARKWAY CULVERT MAX. FLOW CAPACITY




Rectangular Open Channel

| | | |
|---|---|---|
| Flowrate ..... | 9.123 | CFS |
| Velocity ..... | 6.082 | fps |
| Depth of Flow ..... | 0.250 | feet |
| Critical Depth ..... | 0.416 | feet |
| Total Depth ..... | 0.250 | feet |
| Base Width ..... | 6.000 | feet |
| Slope of Channel ..... | 2.000 | % |
| X-Sectional Area ..... | 1.500 | sq. ft. |
| Wetted Perimeter ..... | 6.500 | feet |
| AR^(2/3) ..... | 0.564 | |
| Mannings 'n' ..... | 0.013 | |

# Underground Chamber Sizing Calculations

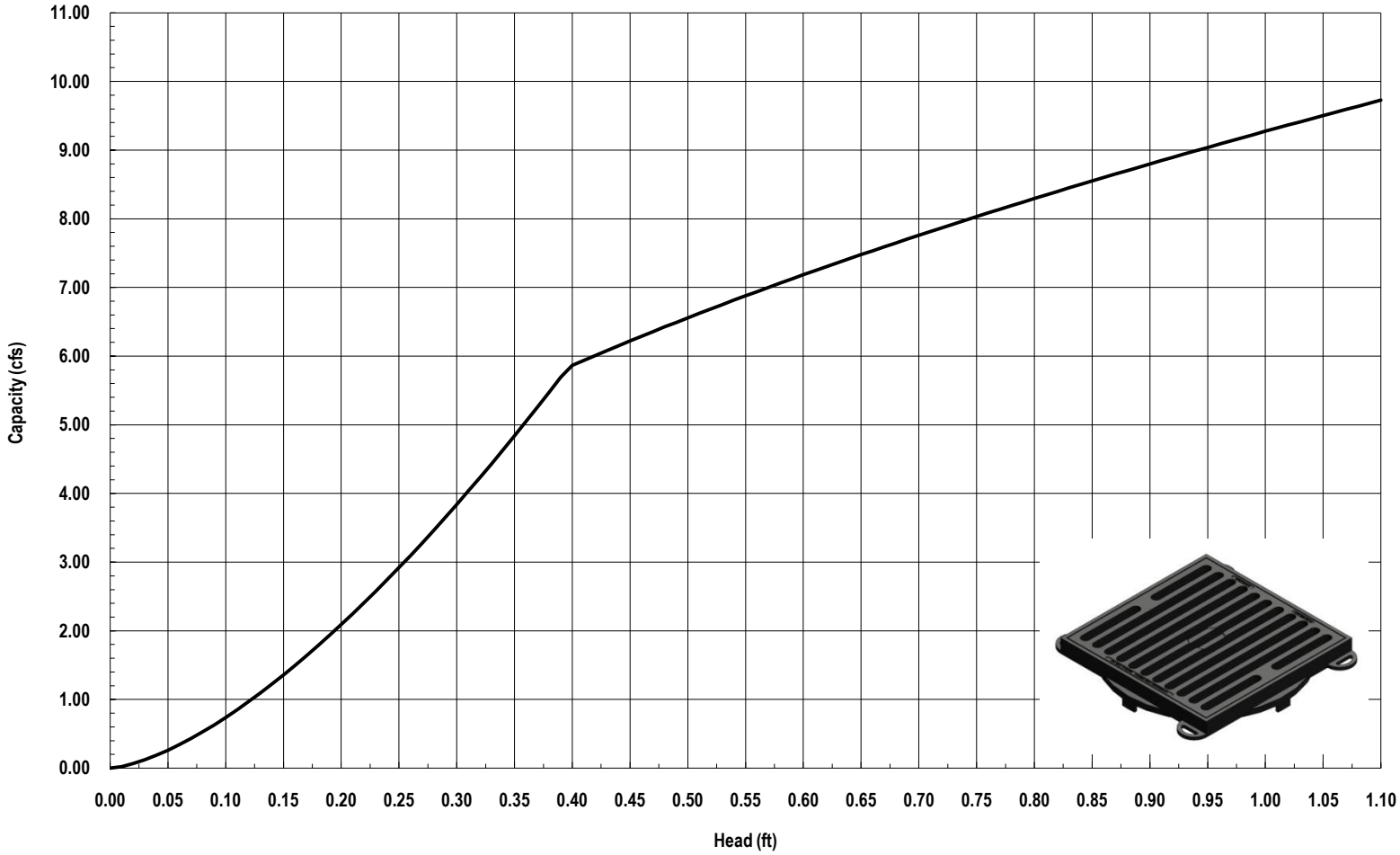
Calculator for Corrugated Steel Pipe Storage System

| | Quantity | Units |
|---|---|---|
| Pipe Diameter: | 8 | ft |
| Total Linear Feet: | 1762 | ft |
| Gravel Depth on Bottom | 0.5 | ft |
| Gravel Depth on Top: | 1 | ft |
| Porosity of Gravel: | 0.40 | Decimal % |
| Depth vs Volume Increm | 0.5 | ft |
| Bed Length | 588 | ft |
| Bed width | 34 | ft |

alculation Based on Depth

| | System Depth (ft) | Water Depth in Pipe (ft) | Θ | X-Sect Area of Water in Pipe ($ft^2$) | Volume of Water in Pipe ($ft^3$) | Volume of Water in Gravel ($ft^3$) | Total Volume ($ft^3$) | Total Volume (ac-ft) | | | System Depth (ft) | Total Volume ($ft^3$) | Total Volume (ac-ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | |
| Depth 1 | 0.5 | 0 | 0.00 | 0.00 | 0.00 | 3,998.40 | 3998 | 0.0918 | | | | | |
| Depth 2 | 1 | 0.5 | 57.91 | 1.31 | 2,304.78 | 7,074.89 | 9380 | 0.2153 | | | | | |
| Depth 3 | 1.5 | 1 | 82.82 | 3.63 | 6,389.88 | 9,439.25 | 15829 | 0.3634 | | | | | |
| Depth 4 | 2 | 1.5 | 102.64 | 6.52 | 11,495.97 | 11,395.21 | 22891 | 0.5255 | | | | | |
| Depth 5 | 2.5 | 2 | 120.00 | 9.83 | 17,315.10 | 13,065.96 | 30381 | 0.6975 | | | | | |
| Depth 6 | 3 | 2.5 | 135.95 | 13.42 | 23,646.47 | 14,531.81 | 38178 | 0.8765 | 2361.50 | 1 | 0.00 | 0.00 | 0.0000 |
| Depth 7 | 3.5 | 3 | 151.04 | 17.22 | 30,336.13 | 15,854.35 | 46190 | 1.0604 | 2362.00 | 2 | 0.50 | 3,998 | 0.0918 |
| Depth 8 | 4 | 3.5 | 165.64 | 21.14 | 37,254.29 | 17,085.49 | 54340 | 1.2475 | 2363.00 | 3 | 1.50 | 15,829 | 0.3634 |
| Depth 9 | 4.5 | 4 | 180.00 | 25.13 | 44,283.89 | 18,272.04 | 62556 | 1.4361 | 2364.00 | 4 | 2.50 | 30,381 | 0.6975 |
| Depth 10 | 5 | 4.5 | 165.64 | 29.12 | 51,313.49 | 19,458.60 | 70772 | 1.6247 | 2365.00 | 5 | 3.50 | 46,190 | 1.0604 |
| Depth 11 | 5.5 | 5 | 151.04 | 33.05 | 58,231.65 | 20,689.74 | 78921 | 1.8118 | 2366.00 | 6 | 4.50 | 62,556 | 1.4361 |
| Depth 12 | 6 | 5.5 | 135.95 | 36.85 | 64,921.31 | 22,012.28 | 86934 | 1.9957 | 2367.00 | 7 | 5.50 | 78921 | 1.8118 |
| Depth 13 | 6.5 | 6 | 120.00 | 40.44 | 71,252.68 | 19,479.73 | 90732 | 2.0829 | 2368.00 | 8 | 6.50 | 90,732 | 2.0829 |
| Depth 14 | 6.95 | 6.45 | 104.46 | 43.43 | 76,518.13 | 21,371.95 | 97890 | 2.2472 | 2368.45 | 9 | 6.95 | 97,890 | 2.2472 |
| Depth 15 | 7 | 6.5 | 102.64 | 43.74 | 77,071.81 | 25,148.88 | 102221 | 2.3467 | 2369.00 | 10 | 7.50 | 109,283 | 2.5088 |
| Depth 16 | 7.5 | 7 | 82.82 | 46.64 | 82,177.90 | 27,104.84 | 109283 | 2.5088 | 2370.00 | 11 | 8.50 | 121,113 | 2.7804 |
| Depth 17 | 8 | 7.5 | 57.91 | 48.96 | 86,263.00 | 29,469.20 | 115732 | 2.6568 | 2371.00 | 12 | 9.50 | VOL | 2.9640 |
| Depth 18 | 8.5 | 8 | 0.00 | 50.27 | 88,567.78 | 32,545.69 | 121113 | 2.7804 | | | | | |
| Depth 19 | 9 | 8 | 0.00 | 50.27 | 88,567.78 | 36,544.09 | 125112 | 2.8722 | | | | | |
| Depth 20 | 9.5 | 8 | 0.00 | 50.27 | 88,567.78 | 40,542.49 | 129110 | 2.9640 | | | | | |

# Nyloplast 2' x 2' Road & Highway Grate Inlet Capacity Chart

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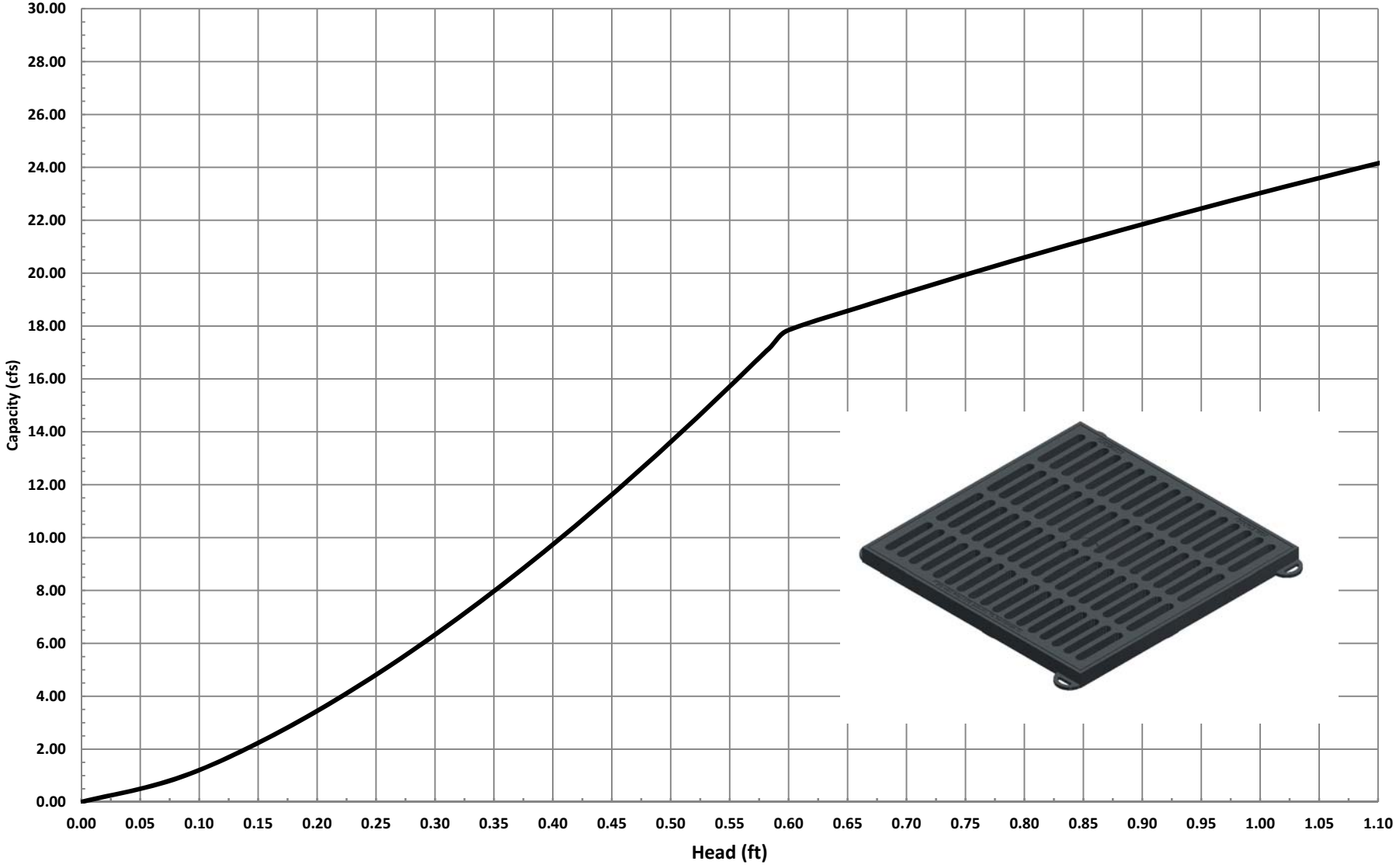
# Nyloplast 3' x 3' Road & Highway Inlet Capacity Chart





Nyloplast

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# BROWN STRAUSS BANNING INDUSTRIAL PROJECT TRAFFIC IMPACT ANALYSIS

City of Banning

October 27, 2023

gandini

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

# BROWN STRAUSS BANNING INDUSTRIAL PROJECT TRAFFIC IMPACT ANALYSIS

City of Banning

October 27, 2023

*prepared by*

Bryan Crawford
Giancarlo Ganddini, PE, PTP

**GANDDINI GROUP, INC.**
555 Parkcenter Drive, Suite 225
Santa Ana, California 92705
(714) 795-3100 | ganddini.com

Project No. 19588

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# EXECUTIVE SUMMARY

The approximately 14.92-acre project site is located at 1219 and 1431 West Lincoln Street (APNs 540-180-020, -022, and -026) in the City of Banning, California.

The currently vacant site is proposed to be developed with a steel distribution use. The total development proposal includes a 45,000 square foot warehouse, a 3,000 square foot office, two 500 square foot enclosed saw sheds, and an outdoor storage yard. The project also involves a General Plan Amendment/Zone Change for a portion of the site from Industrial (I) and General Commercial (CC) to Industrial (I).

**Existing Conditions**

The study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions.

**Project Trip Generation**

The existing Brown Strauss facility currently generates approximately 191 daily vehicle trips, including 22 vehicle trips during the AM peak hour and 10 vehicle trips during the PM peak hour. The existing Brown Strauss facility currently generates approximately 343 daily PCE trips, including 43 PCE trips during the AM peak hour and 16 PCE trips during the PM peak hour.

The existing Brown Strauss Steel operation located at 14970 Jurupa Avenue in the City of Fontana will be closed with operations moved to this City of Banning location. The City of Fontana location is 23.0-acres which is larger than the 14.92-acre project site. This traffic impact analysis uses the trip generation for the 23-acre site without adjustment for the proposed 14.92-acre site. This will provide for a conservative analysis while conforming with the intent that the project is moving operations and operations will remain similarly to existing status, even if the new location has a smaller square footage.

**Levels of Service/Operational Analysis Findings (Non-CEQA)**

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year Conditions With Project (2025), except for the following study intersection that is forecast to continue operating at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Opening Year Conditions With Project (2025).

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Cumulative Conditions With Project (2025), except for the following study intersection that is forecast to operate at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Cumulative Conditions With Project (2025).

**General Plan Amendment Analysis**

Since maximum potential buildout of APN 540-180-022 is forecast to generate fewer trips with the proposed Industrial (I) land use designation compared to the existing General Commercial (GC) land use designation, the proposed General Plan Amendment would not exceed impacts associated with buildout of the current General Plan.

**Site Access & Circulation**

It is recommended that the entrance gate at the Project West Driveway is either moved north into the project site to allow for at least 100 feet of queuing capacity from Lincoln Street or always remain open during operating hours so that trucks do not need to wait for the gate to open.

Based on the relatively low turning movement volumes generated by the project, separation of passenger car and truck accesses, and separation of inbound and outbound trucks, the proposed project driveways are expected to function adequately.

# 1. INTRODUCTION

This section introduces the proposed project and the general scope of the analysis.

## PURPOSE AND OBJECTIVES

The purpose of this study is to evaluate the potential for transportation impacts resulting from development of the proposed project in the context of the City of Banning's discretionary authority for conformance with locally established operational standard. Although this is a technical report, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with terms related to transportation engineering.

This study was prepared in consultation with City of Banning staff and in accordance with the procedures and methodologies for assessing transportation impacts established by the City of Banning. To assess the project's conformance with local operational standards, this study evaluates the project's effect on traffic operations and, if necessary, identifies recommended improvements or corrective measures to alleviate operational deficiencies substantially caused or worsened by the proposed project.

For CEQA purposes, the project's vehicle miles traveled (VMT) impact is documented separately in the *Brown Strauss Banning Industrial Project Vehicle Miles Traveled Screening Assessment* (Ganddini Group, Inc., April 2023).

## PROJECT DESCRIPTION

The approximately 14.92-acre project site is located at 1219 and 1431 West Lincoln Street (APNs 540-180-020, -022, and -026) in the City of Banning, California. Figure 1 shows the project location map.

The currently vacant site is proposed to be developed with a steel distribution use. The total development proposal includes a 45,000 square foot warehouse, a 3,000 square foot office, two 500 square foot enclosed saw sheds, and an outdoor storage yard. The project also involves a General Plan Amendment/Zone Change for a portion of the site from Industrial (I) and General Commercial (CC) to Industrial (I). Figure 2 illustrates the project site plan.

The project site is proposed to provide four access driveways on West Lincoln Street. The project west driveway will be a truck entrance only driveway. The project central-west driveway will be a full access automobile only driveway. The project central-east and east driveways will be truck exit only driveways. For purposes of this analysis, the proposed project is anticipated to be constructed and fully operational by year 2025.

Brown Strauss Steel currently operates a larger facility located at 14970 Jurupa Avenue in the City of Fontana. If the proposed Banning project is approved, the existing operation in Fontana will be closed and its operations will be moved to the proposed Banning location.

## SCOPE OF ANALYSIS

The scope of this analysis was determined in consultation with City of Banning staff as documented in the City-approved scoping agreement provided in Appendix B.

### Study Area

Based on the study intersections identified in the approved scoping agreement, the study area consists of the following study intersections within City of Banning jurisdiction:

| Study Intersections[1] | Jurisdiction |
|---|---|
| 1. 22nd Street (NS) at Lincoln Street (EW) | City of Banning |
| 2. Project West Driveway (NS) at Lincoln Street (EW) | City of Banning |
| 3. Project Central-West Driveway (NS) at Lincoln Street (EW) | City of Banning |
| 4. Project Central-East Driveway (NS) at Lincoln Street (EW) | City of Banning |
| 5. Project East Driveway/12th Street (NS) at Lincoln Street (EW) | City of Banning |
| 6. 8th Street (NS) at Lincoln Street (EW) | City of Banning |

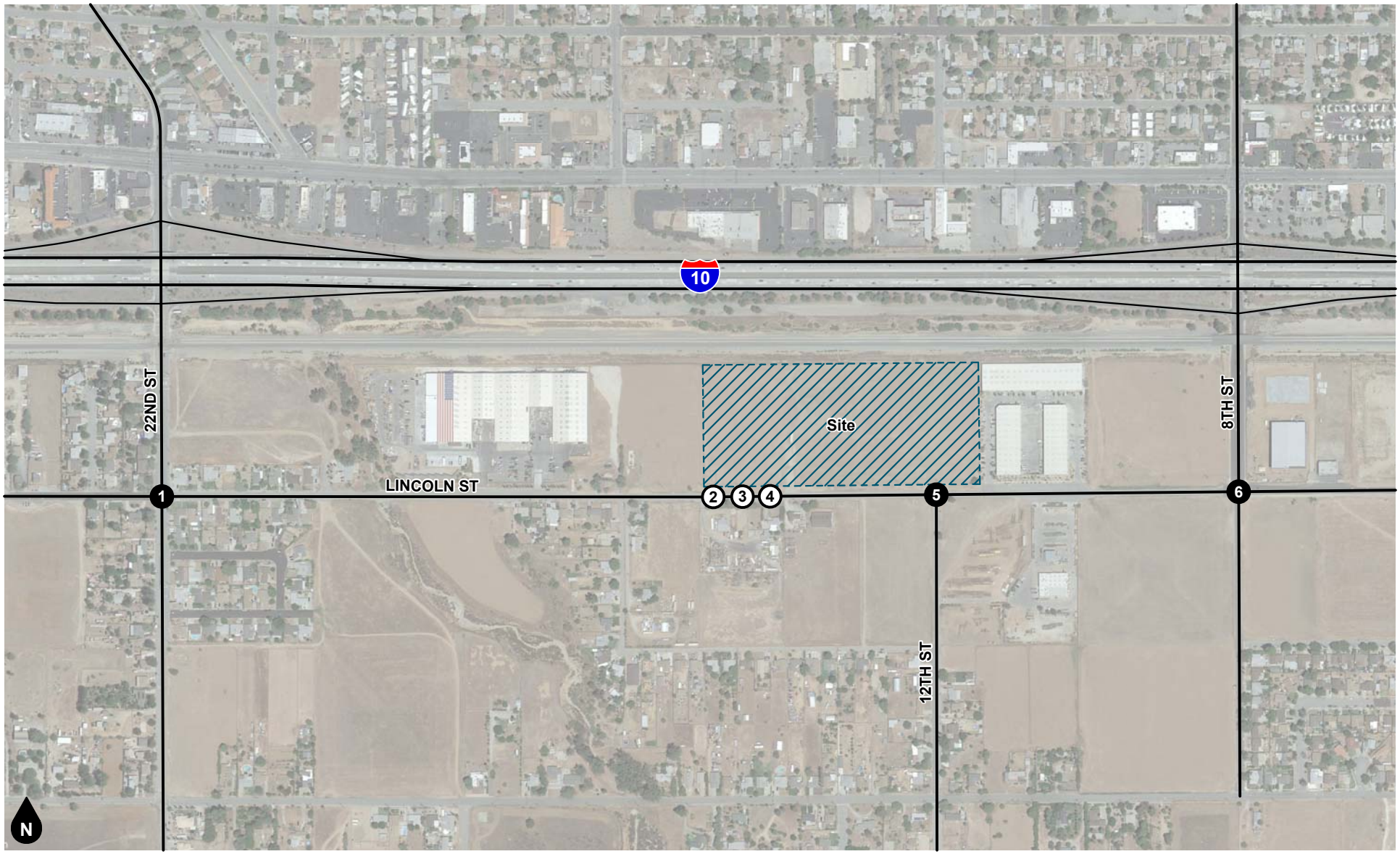
Notes:
1. (NS) = North-South roadway; (EW) = East-West roadway

## Analysis Scenarios

The following scenarios are analyzed for weekday AM and PM peak hour conditions:

- Existing Conditions (2023)
- Opening Year Conditions (2025)
- Opening Year Conditions With Project (2025)
- Cumulative Conditions (2025)
- Cumulative Conditions With Project (2025)
- Horizon Year Conditions (2045)
- Horizon Year Conditions With Project (2045)

This study includes a General Plan Buildout (Horizon Year (2045)) analysis as the project also involves a General Plan Amendment/Zone Change for a portion of the site from Industrial (I) and General Commercial (CC) to Industrial (I).




Legend

(#) Study Intersection

(#) Project Driveway

**Figure 1**
**Project Location Map**

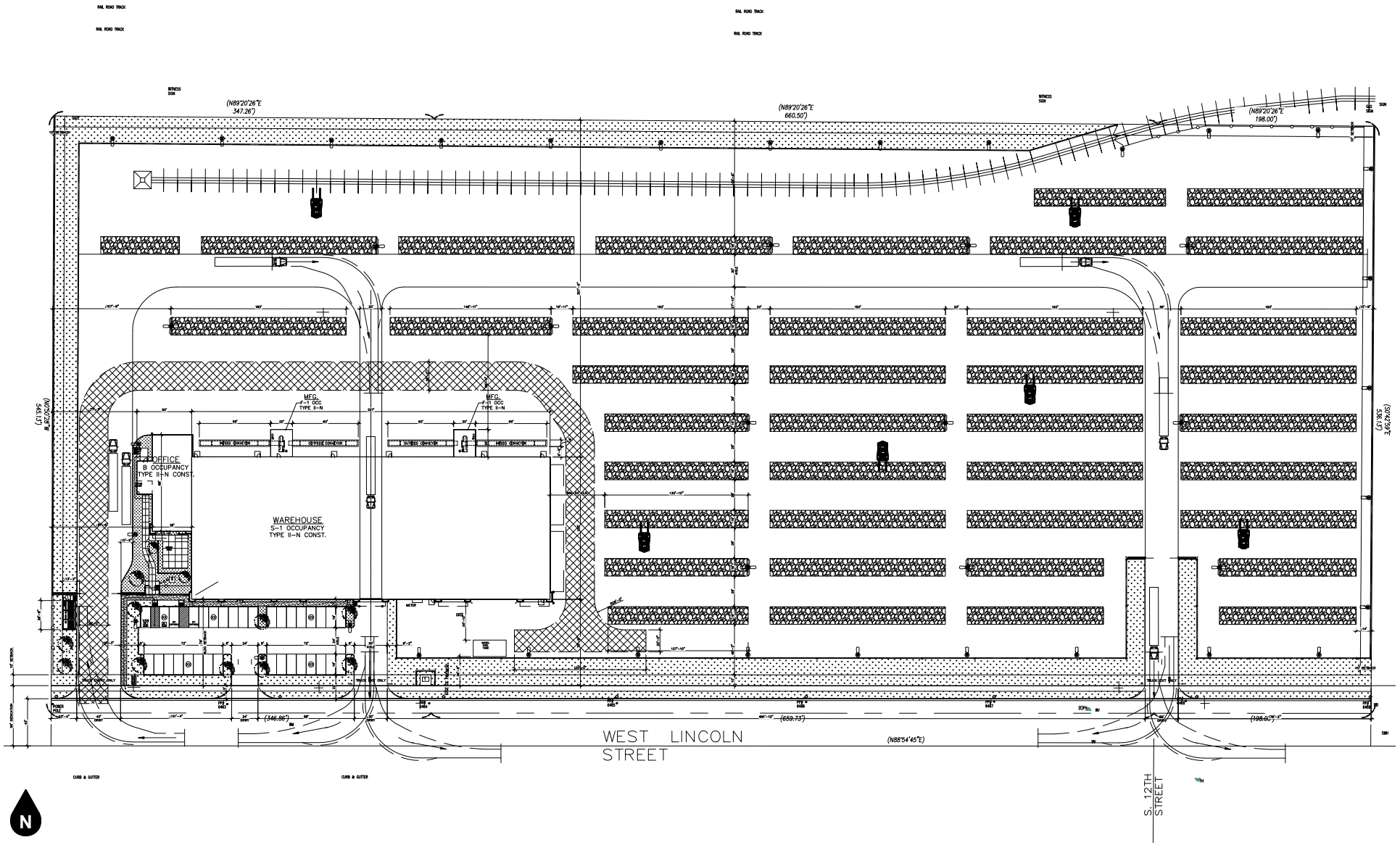



**Figure 2**
**Site Plan**

# 2. METHODOLOGY

This section discusses the analysis methodologies used to assess transportation facility performance as adopted by the respective jurisdictional agencies.

### LEVEL OF SERVICE ANALYTICAL METHODOLOGY (NON-CEQA)

Level of Service analysis is performed for assessing conformance with General Plan and operational standards established by the applicable agencies. In accordance with current CEQA provisions, a project's effect on automobile delay (as measured by Level of Service) shall not constitute a significant environmental impact.

**Intersection Delay Methodology**

The technique used to assess the performance of intersections is known as the intersection delay methodology based on the procedures contained in the *Highway Capacity Manual* (Transportation Research Board, 7th Edition). The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service. Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to Level of Service based on the following thresholds:

| Level of Service | Intersection Control Delay (Seconds / Vehicle) | |
|---|---|---|
| | Signalized Intersection | Unsignalized Intersection |
| A | ≤ 10.0 | ≤ 10.0 |
| B | > 10.0 to ≤ 20.0 | > 10.0 to ≤ 15.0 |
| C | > 20.0 to ≤ 35.0 | > 15.0 to ≤ 25.0 |
| D | > 35.0 to ≤ 55.0 | > 25.0 to ≤ 35.0 |
| E | > 55.0 to ≤ 80.0 | > 35.0 to ≤ 50.0 |
| F | > 80.0 | > 50.0 |

Source: Transportation Research Board, Highway Capacity Manual (6th Edition).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, Level of Service is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), Level of Service is determined by the average control delay for the worst individual movement (or movements sharing a single lane). Intersection delay and Level of Service calculations were performed using the Vistro software.

The Intersection delay and Level of Service calculations were performed in accordance with input parameters as defined in the City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis*, October 2021.

**Performance Standards**

The City of Banning has established LOS D as the minimum acceptable Level of Service along all City maintained roads (including intersections).

**Substantial Operational Deficiency Criteria**

For study intersections within the City of Banning jurisdiction, a traffic impact occurs if:

a) The addition of project traffic causes the intersection LOS to degrade from acceptable LOS D or better to an unacceptable LOS E or F.

b) The addition of project traffic causes the peak hour delay to increase as follows:

- LOS A/B by 10 seconds;
- LOS C by 8 seconds;
- LOS D by 5 seconds;
- LOS E by 2 seconds;
- LOS F by 1 second

If either of the above conditions is satisfied, improvements should be identified that achieve the following:

- Improving traffic operations to LOS D for case a, above.
- Improving traffic operations to offset the increase in delay for case b, above.

If a project is forecast to cause an operational traffic impact, feasible improvements that will reduce the impact to an acceptable LOS are identified. Improvements can be in many forms, including the addition of lanes, traffic control modification, or demand management measures.

### VEHICLE MILES TRAVELED ANALYTICAL METHODOLOGY (CEQA)

The metric used to evaluate the transportation impact of land use and transportation projects under CEQA is known as vehicle miles traveled (VMT). In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. As previously noted, the project's VMT impact is documented separately in the *Brown Strauss Banning Industrial Project Vehicle Miles Traveled Screening Assessment* (Ganddini Group, Inc., April 2023).

# 3. EXISTING CONDITIONS

This section describes the existing transportation setting in the project vicinity.

### EXISTING ROADWAY SYSTEM

Figure 3 identifies the lane geometry and intersection traffic controls for Existing conditions based on a field survey of the study area. Regional access to the project site is provided by the Interstate 10 (I-10) Freeway located adjacent to the project site to the north. Key roadways providing local circulation include 22nd Street, 12th Street, 8th Street, and Lincoln Street.

### GENERAL PLAN CONTEXT

Figure 4 shows the City of Banning General Plan Circulation Element roadway classifications map. This figure shows the nature and extent of arterial and collector highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The City of Banning standard roadway cross-sections are illustrated on Figure 5.

Figure 6 shows the County of Riverside Pass Area Circulation Element roadway classifications map. This figure shows the nature and extent of arterial and collector highways that are needed to adequately serve the ultimate development depicted by the Pass Area Plan (September 28, 2021). The County of Riverside standard roadway cross-sections are illustrated on Figure 7.

### TRUCK ROUTES

The City of Banning Commercial Vehicle Routes are illustrated on Figure 8. Existing truck routes in the project vicinity are shown on Figure 8. There are currently designated truck routes along Lincoln Street, 22nd Street north of Lincoln Street, and 8th Street north of Lincoln Street. Therefore, all trucks will be able to enter/exit the project site to/from the I-10 Freeway via designated commercial vehicle routes.

### TRANSIT SERVICE

The Riverside Transit Agency (RTA) bus service and Banning Connect Transit System currently do not provide transit routes along Lincoln Street adjacent to the project site.

### BICYCLE AND PEDESTRIAN FACILITIES

The County of Riverside Pass Area Trails and Bikeway Systems are illustrated on Figure 9. There are currently no existing bicycle lanes along Lincoln Street adjacent to the project site. The County of Riverside Pass Area Trails and Bikeway Systems does not show proposed bicycle lanes on Lincoln Street along the project site frontage.

Existing pedestrian facilities in the project vicinity are shown on Figure 10. Sidewalks are not currently provided on Lincoln Street along the project site frontage.

### EXISTING ROADWAY VOLUMES

Figure 11 and Figure 12 show the Existing AM and PM peak hour intersection turning movement volumes. Existing peak hour intersection volumes are based upon AM peak period and PM peak period intersection turning movement counts obtained in August 2023 during typical weekday conditions when schools were in session. The weekday AM peak period was counted between 7:00 AM and 9:00 AM and the weekday PM peak period was counted between 4:00 PM and 6:00 PM; these periods capture the peak times for commuter

traffic when the roadway system is typically experiencing peak demand. The actual peak hour within each two-hour count period is determined based on the sum of the four consecutive 15-minute periods with the highest total volume. Thus, the weekday PM peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15-minute periods have the highest total volume and may vary at other intersections. Truck trips were converted to Passenger Car Equivalent (PCE) trips based on the following factors: 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with four or more axles in accordance with City of Banning guidelines. Traffic count worksheets are provided in Appendix C.

### EXISTING LEVELS OF SERVICE

The intersection Levels of Service for Existing conditions are shown in Table 1. Existing intersection Level of Service calculation worksheets are provided in Appendix D.

As shown in Table 1, the study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions.

**Table 1**
**Existing Conditions Intersection Levels of Service**

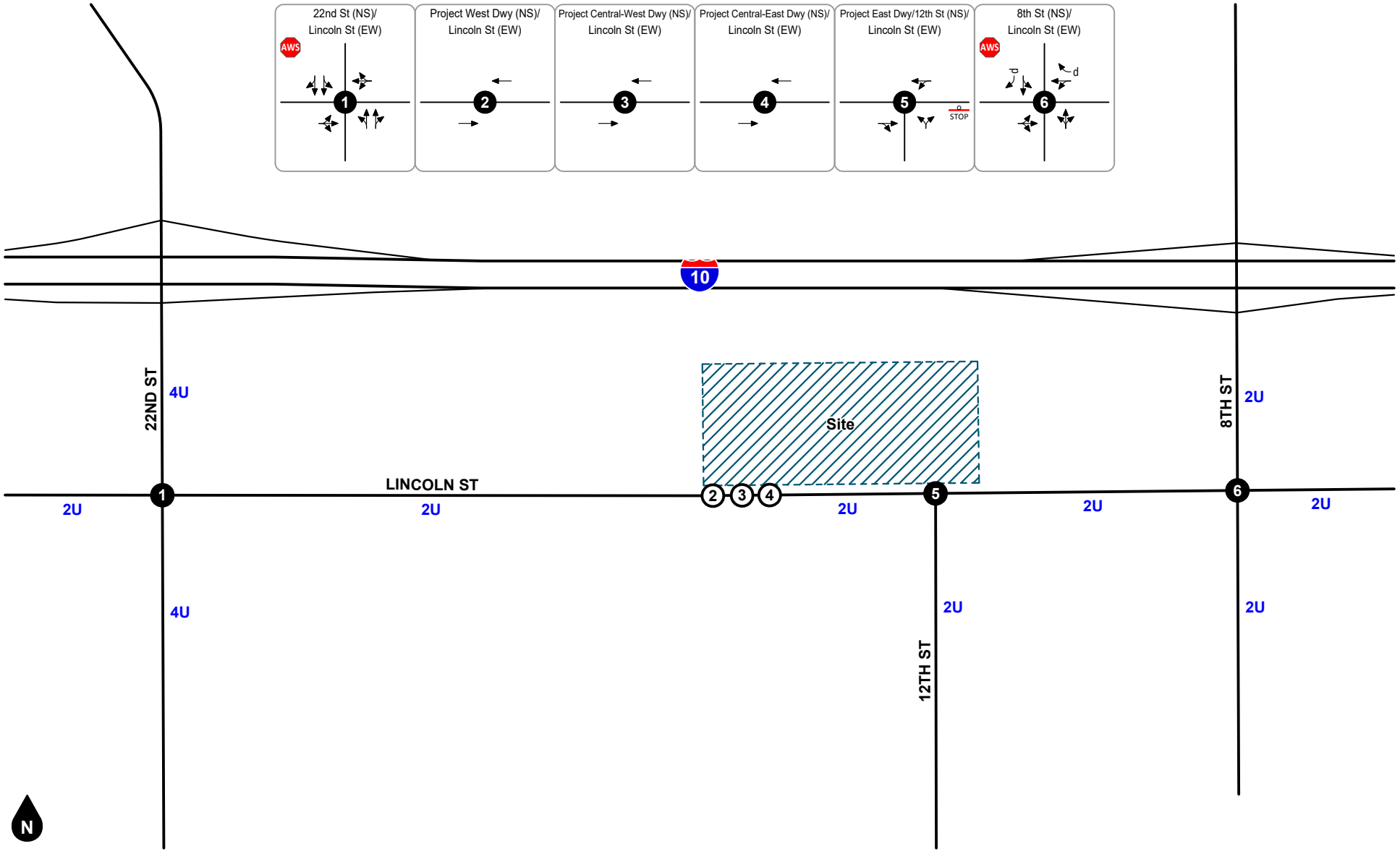
| Study Intersection | Traffic Control[1] | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|
| | | Delay[2] | LOS[3] | Delay[2] | LOS[3] |
| 1. 22nd St at Lincoln St | AWS | 8.0 | A | 7.8 | A |
| 5. Project East Dwy/12th St at Lincoln St | CSS | 9.0 | A | 9.2 | A |
| 6. 8th St at Lincoln St | AWS | 33.6 | D | 12.4 | B |

Notes:

(1) AWS = All Way Stop; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach or major street left turn movement.

(3) LOS = Level of Service




Legend

- Traffic Signal
- All Way Stop
- Stop Sign
- #D #-Lane Divided Roadway
- #U #-Lane Undivided Roadway
- Existing Lane
- d De Facto Right Turn Lane

**Figure 3**
**Existing Lane Geometry and Intersection Traffic Controls**

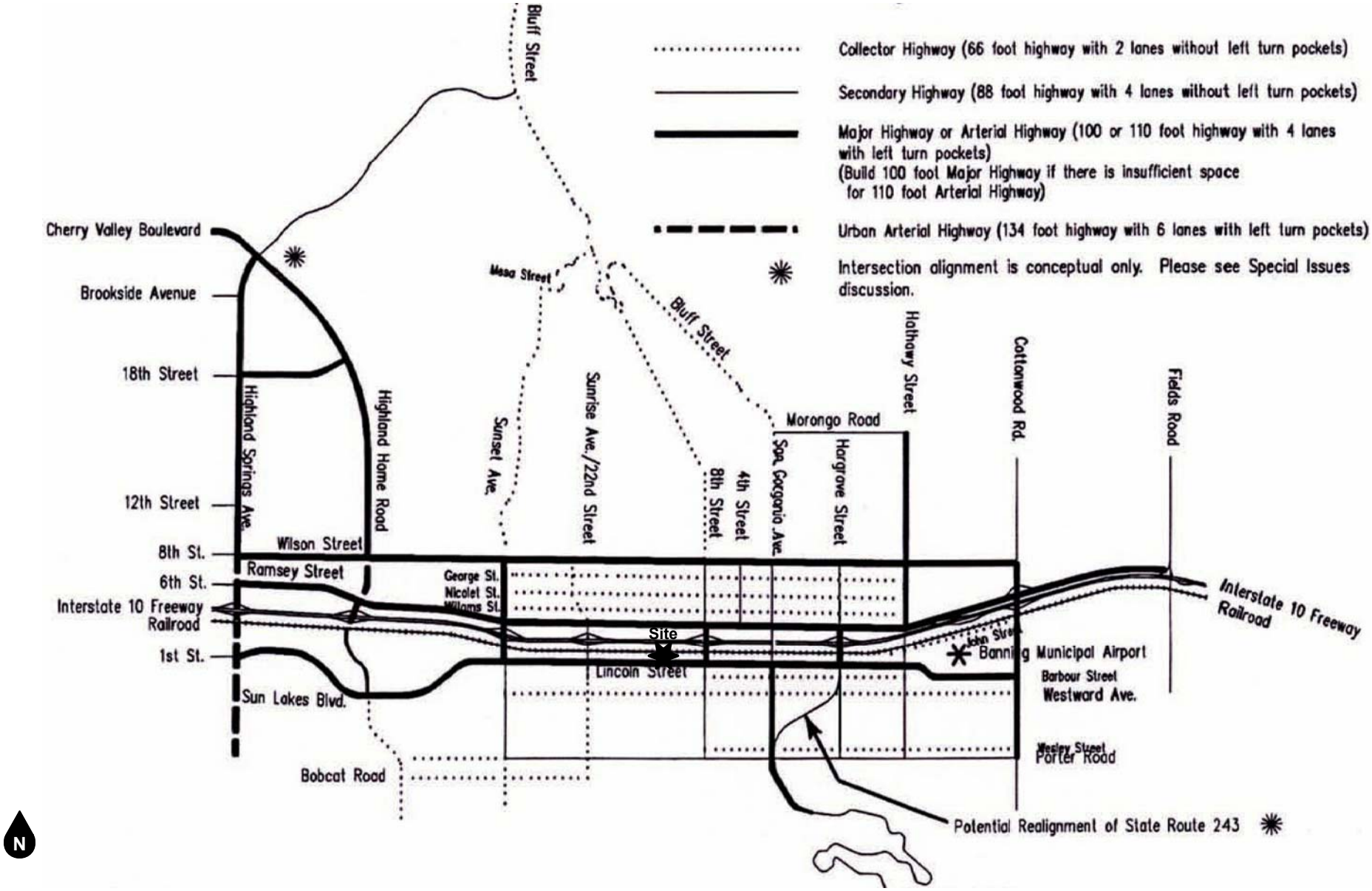



**Figure 4**
**City of Banning General Plan Circulation Element**

Source: City of Banning

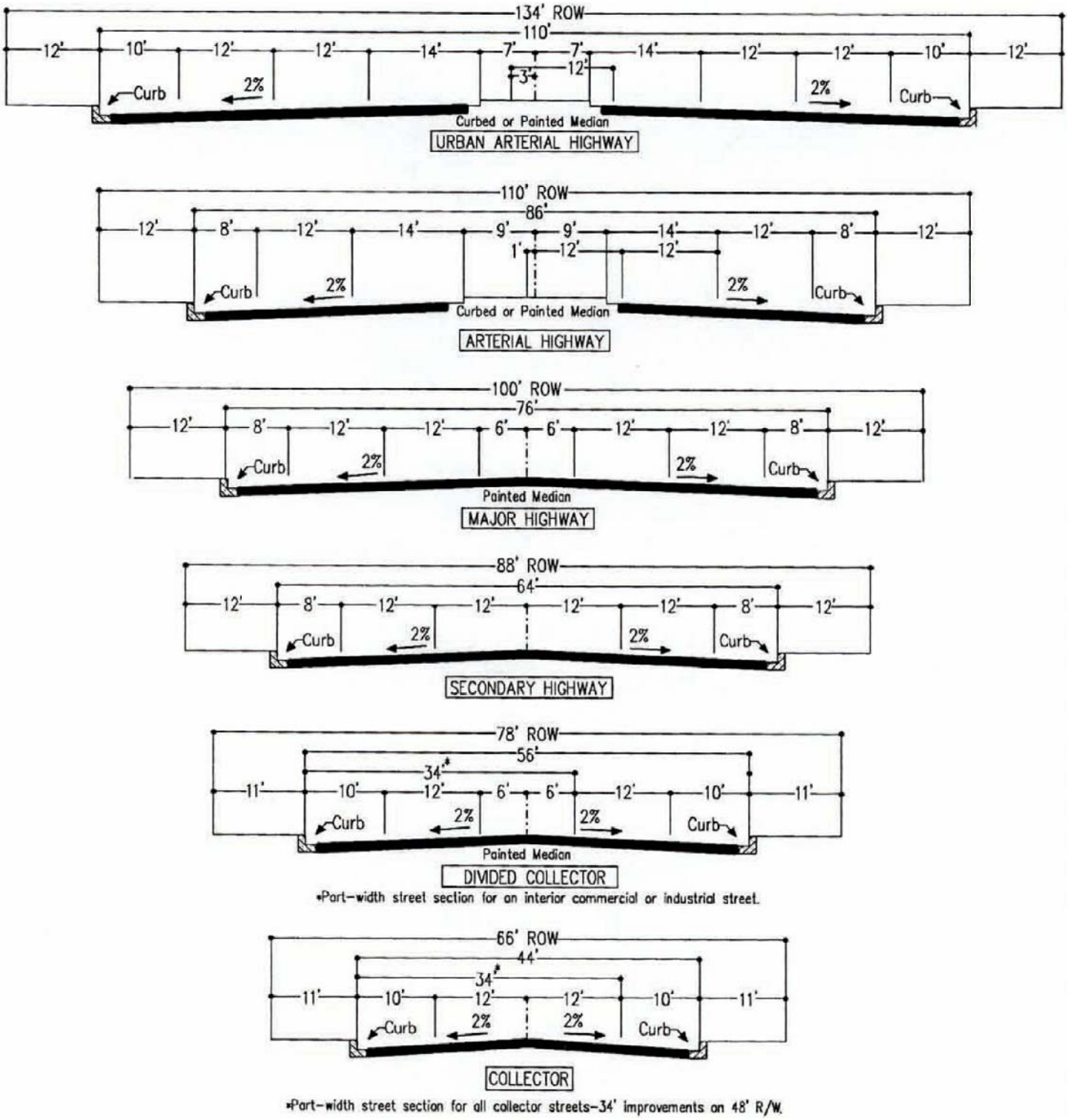



**Figure 5**
**City of Banning General Plan Roadway Cross-Sections**

Source: City of Banning

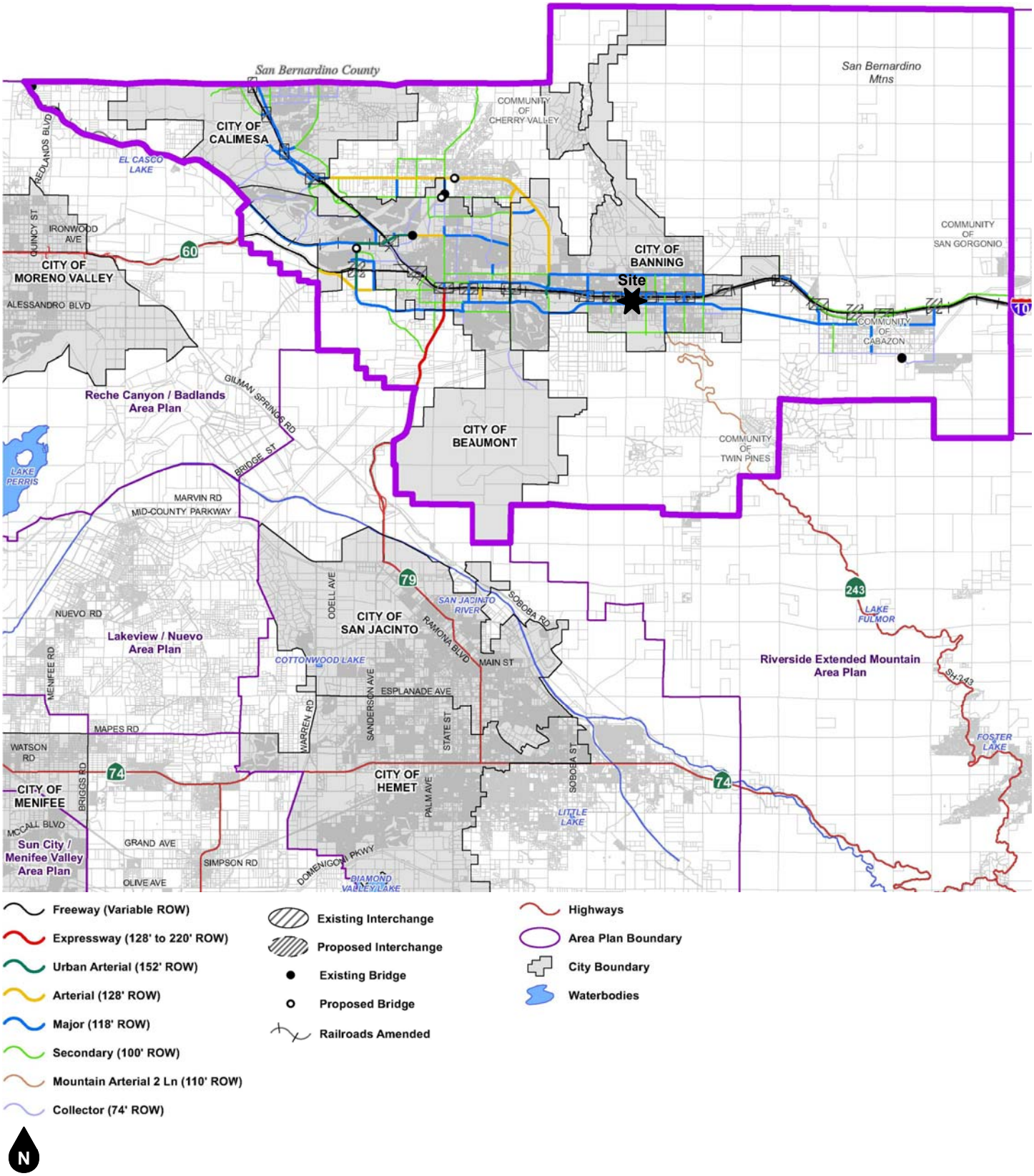
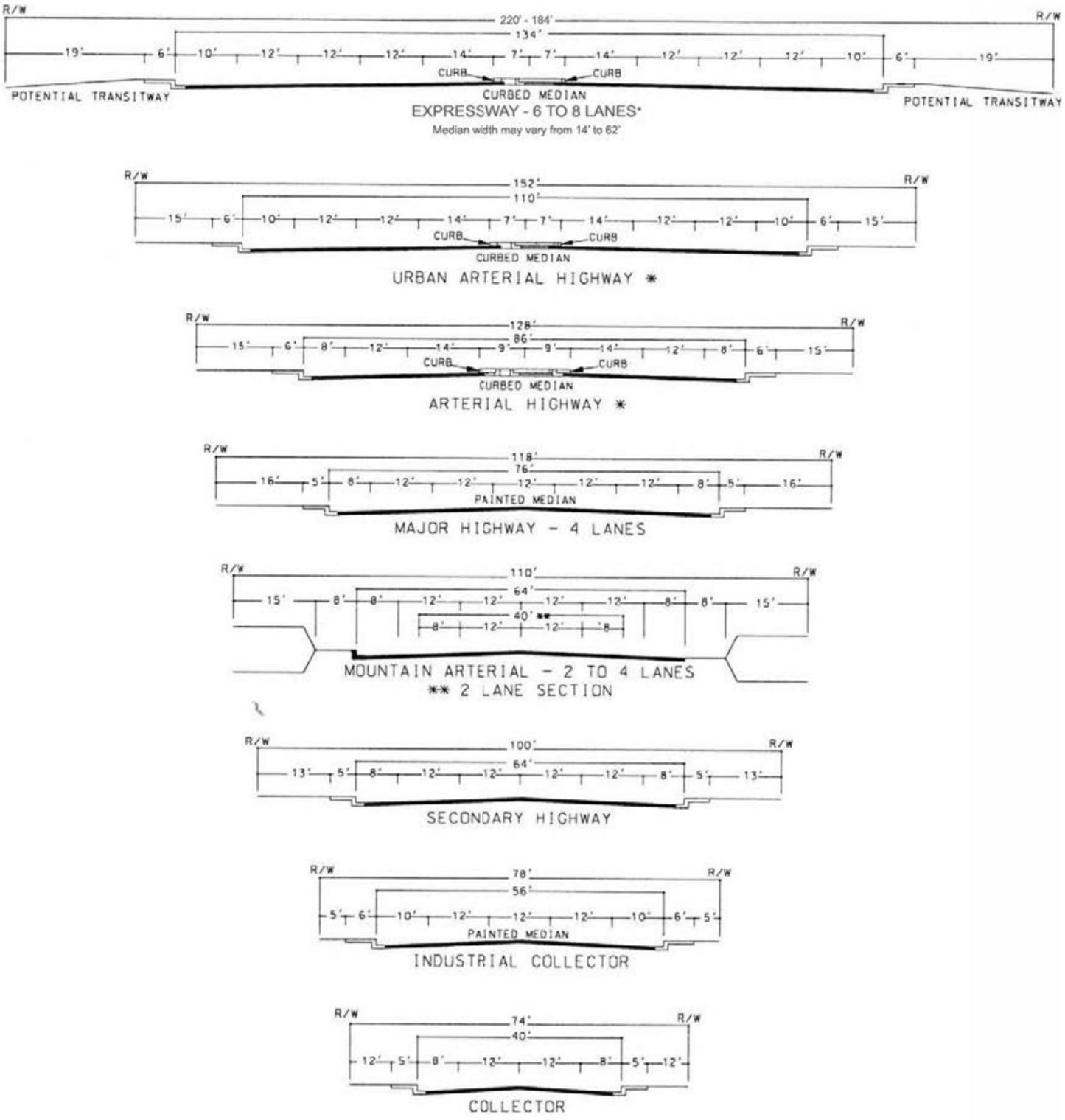



**Figure 6**
**County of Riverside Pass Area Circulation Plan**

Source: County of Riverside




*IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE. ULTIMATE IMPROVEMENTS FOR STATE HIGHWAYS SHALL CONFORM TO CALTRANS DESIGN STANDARDS.

**Figure 7**
**County of Riverside General Plan Roadway Cross-Sections**

Source: County of Riverside

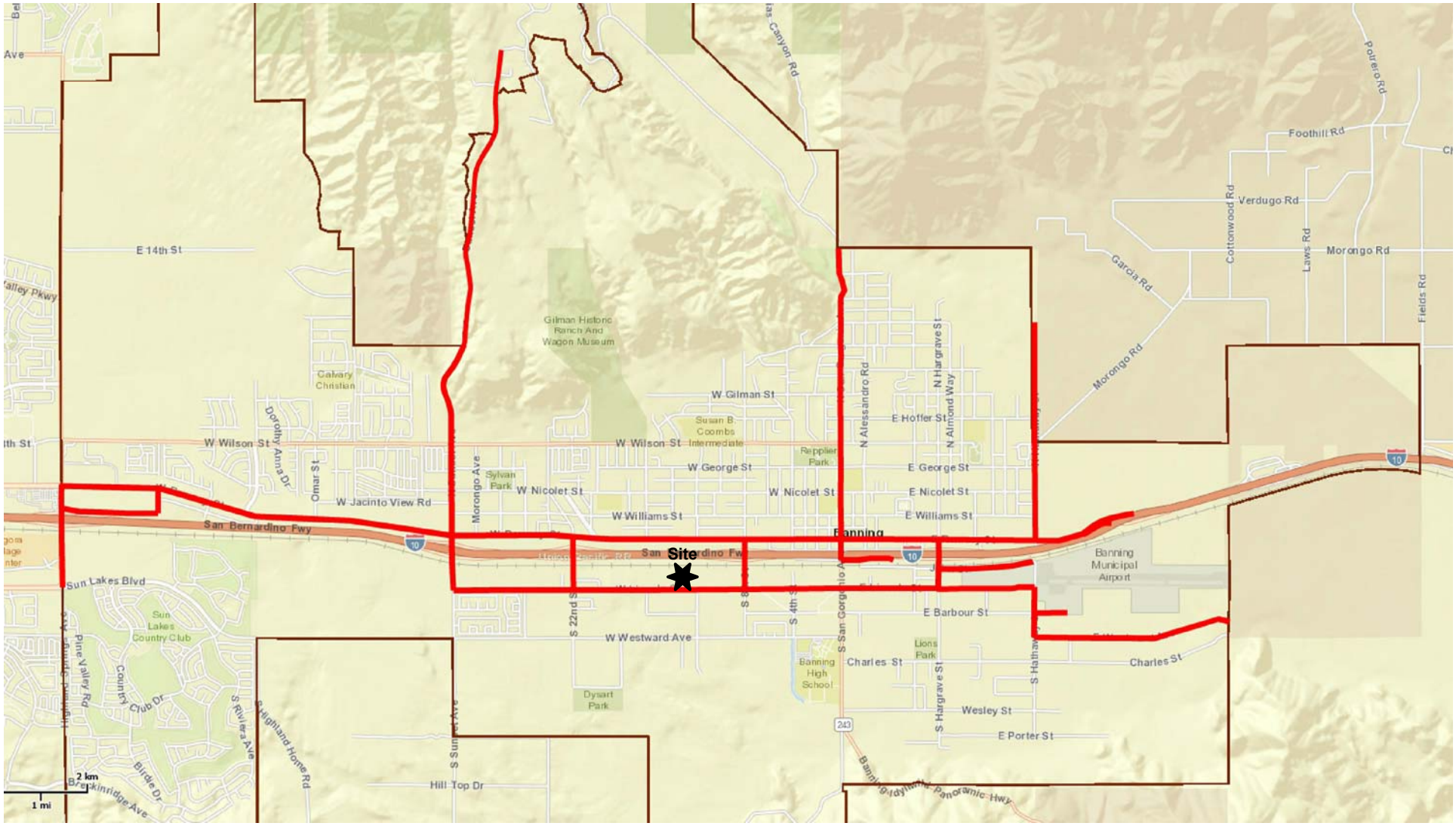



**Figure 8**
**City of Banning Commercial Vehicle Routes**

Source: City of Banning

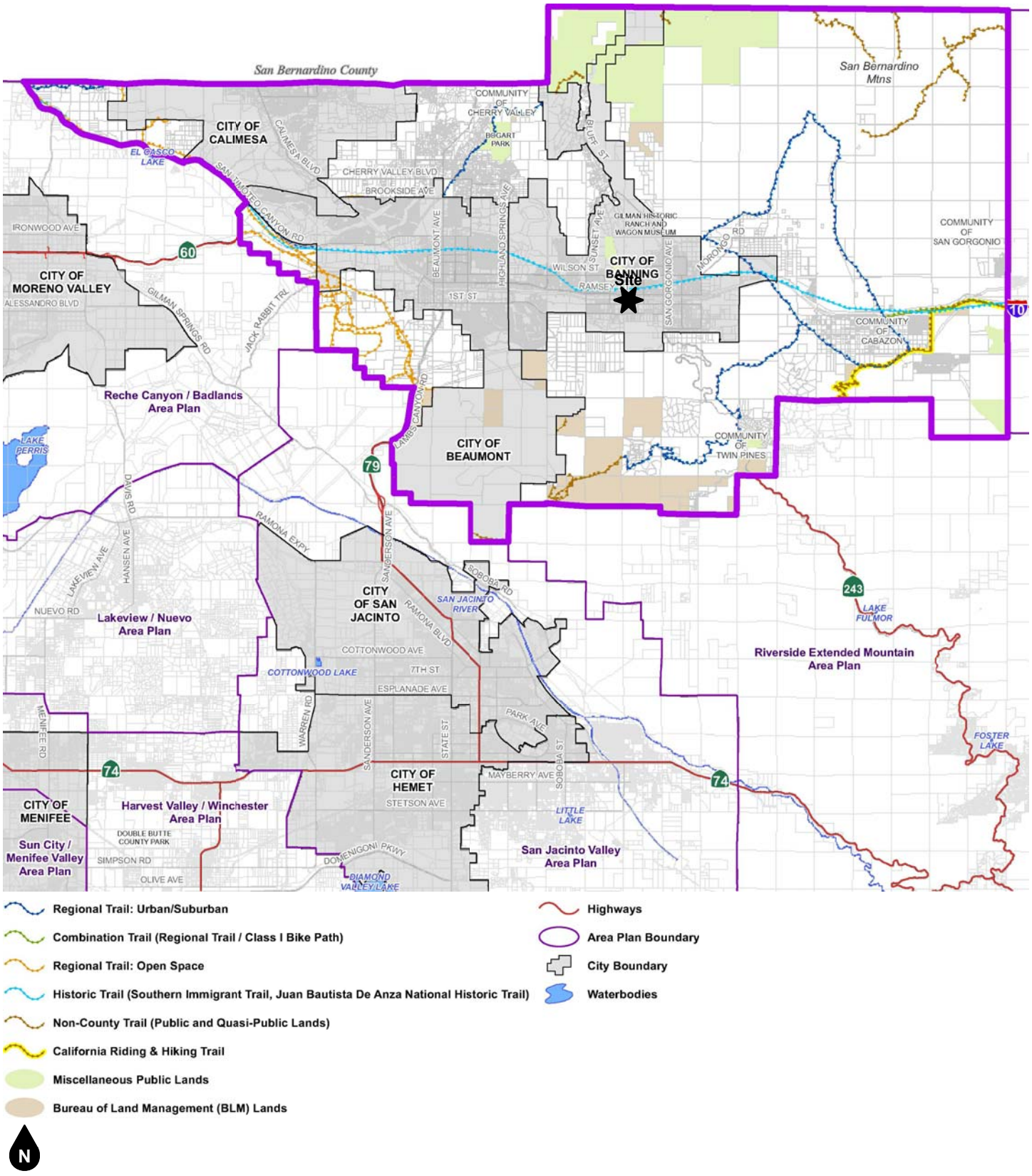
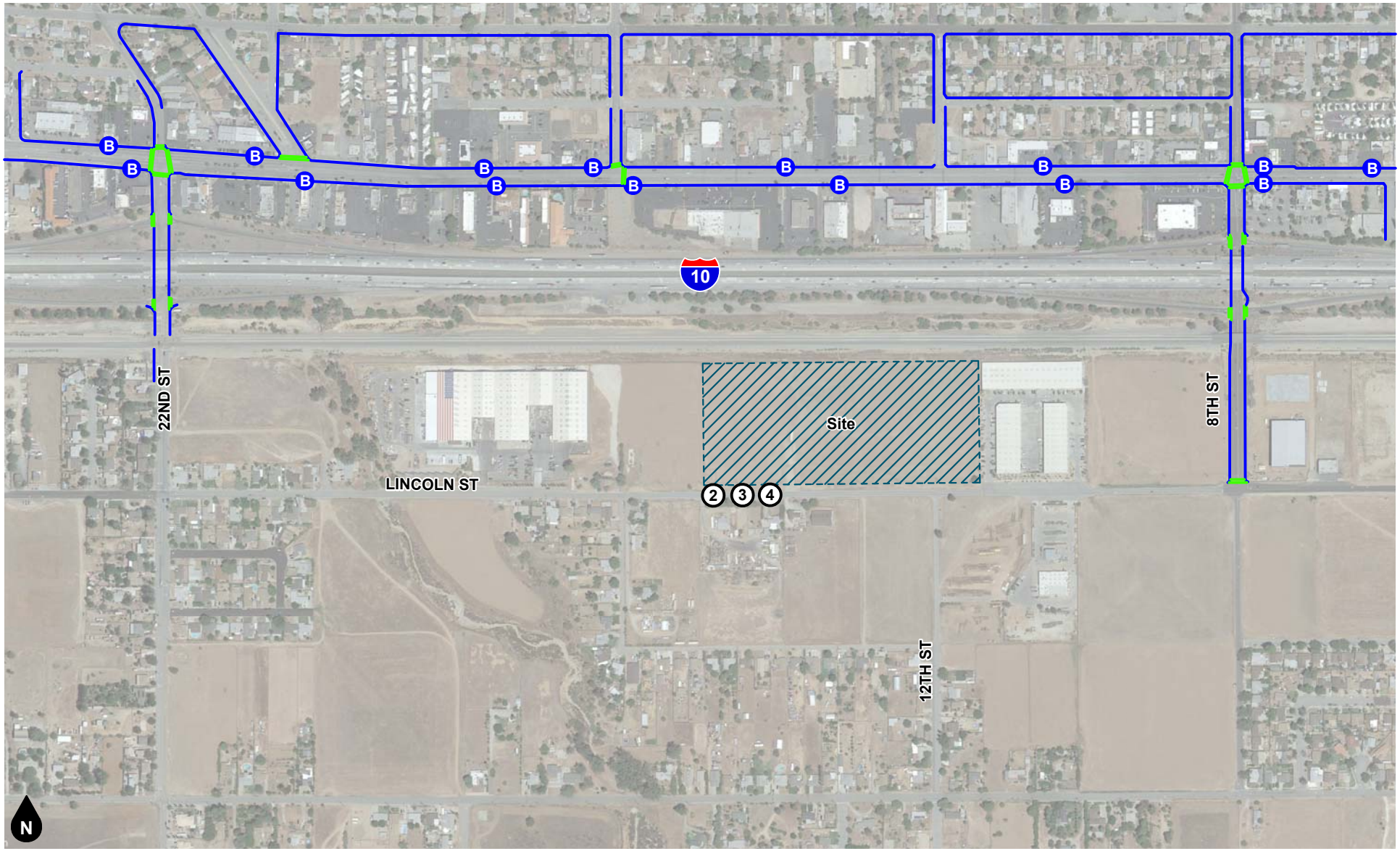



**Figure 9**
**County of Riverside Pass Area Trails and Bikeway Systems**

Source: County of Riverside




Legend
- Sidewalk
- Cross Walk
- B Bus Stop

**Figure 10**
**Existing Pedestrian Facilities**

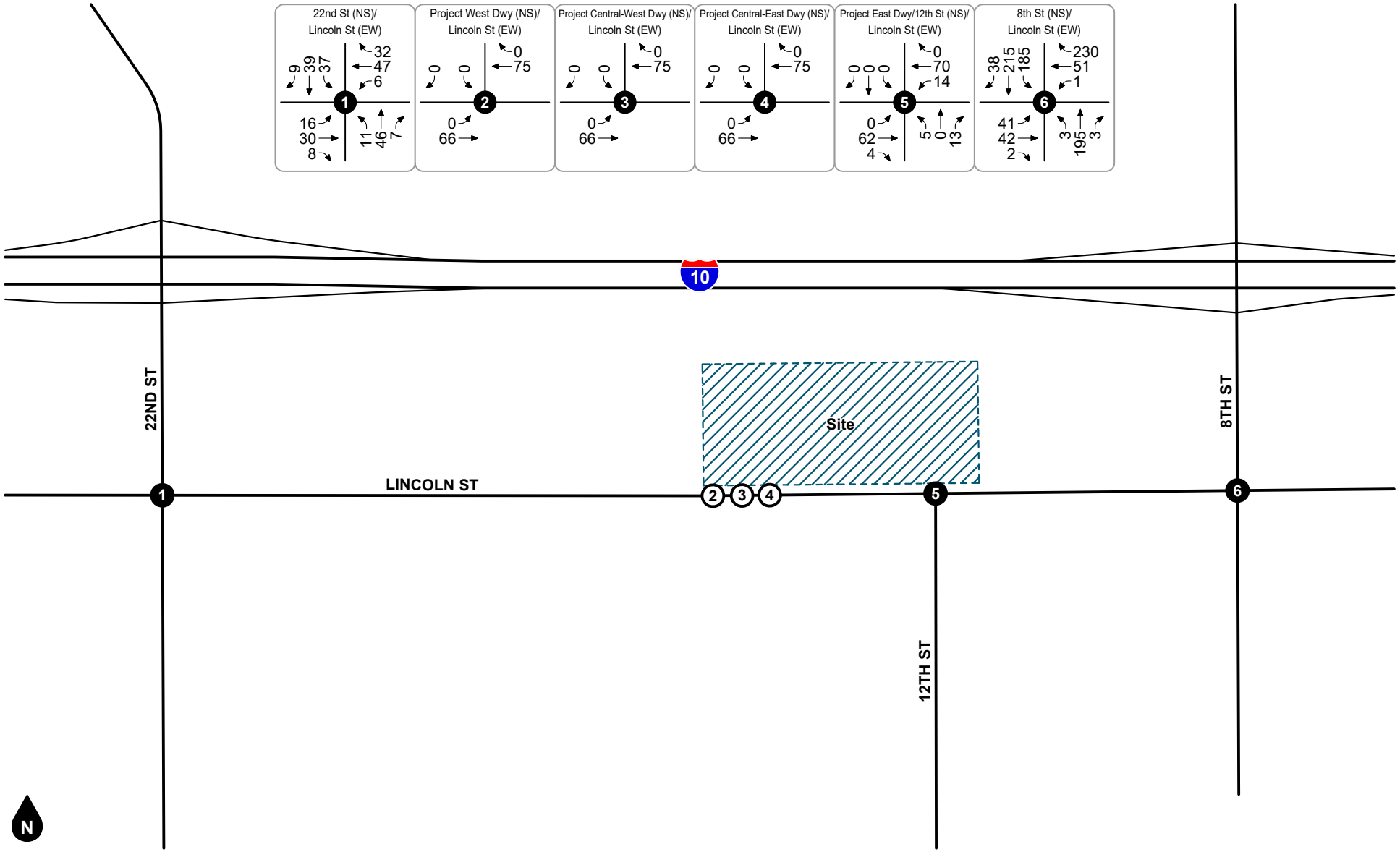



**Figure 11**
**Existing AM Peak Hour Intersection Turning Movement Volumes**

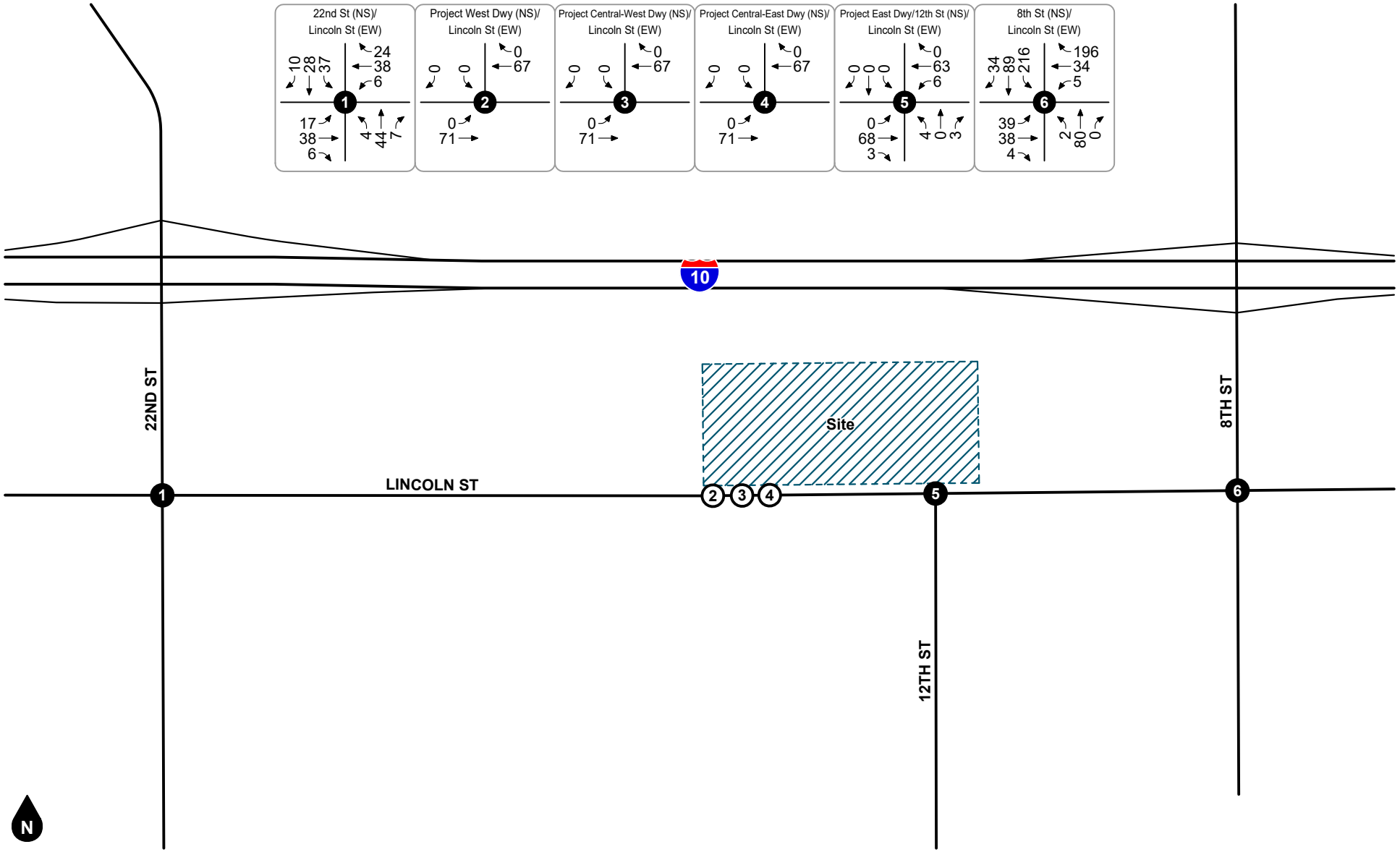



**Figure 12**
**Existing PM Peak Hour Intersection Turning Movement Volumes**

# 4. PROJECT TRIP FORECASTS

This section describes how project trip generation, trip distribution, and trip assignment forecasts were developed. The forecast project volumes are illustrated on figures contained in this section.

## PROJECT TRIP GENERATION

To determine project trip generation, 24-hour inbound/outbound trip counts were conducted at the driveway of the existing Brown Strauss Steel facility in the City of Fontana (14970 Jurupa Avenue) over a three-day period from Tuesday, March 7, 2023, through Thursday, March 9, 2023. Trip generation count worksheets are included in Appendix E.

Table 2 shows the observed trip generation for the existing Brown Strauss Steel facility, which is used in this analysis for the proposed project trip generation. As shown in Table 2, the proposed project is expected to generate approximately 191 daily vehicle trips based on the average trip counts observed at the existing Brown Strauss Steel facility, including 22 vehicle trips during the AM peak hour and 10 vehicle trips during the PM peak hour.

### Truck Trips

In accordance with industry practice and City requirements for truck-oriented uses, the existing Brown Strauss Steel facility trip generation was also calculated in terms of Passenger Car Equivalent (PCE) trips. Truck trips were converted to PCE trips based on the following factors recommended by the City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021): 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with four or more axles.

As also shown in Table 2, the proposed project is expected to generate approximately 343 daily PCE trips, including 43 PCE trips during the AM peak hour and 16 PCE trips during the PM peak hour.

### Pro-Rated Trip Generation

Table 2 also shows the trips generated per acre for the existing 23.0-acre Brown Strauss Steel facility in the City of Fontana. For informational purposes, Table 3 shows the pro-rated project trip generation based on trips generated by acre. As shown in Table 3, the proposed relocation of existing operations from the 23.0-acre facility in Fontana to a smaller 14.92-acre facility in Banning could arguably be expected to generate fewer trips. To provide a conservative assessment, this analysis assumes that the proposed 14.92-acre facility will generate the same number of trips as the existing 23.0-acre facility in the City of Fontana.

## PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Figure 13 shows the forecast project trip distribution patterns for passenger cars. Figure 14 and Figure 15 show the forecast directional distribution patterns for the project generated truck trips. The project trip distribution patterns were developed using engineering judgment in consultation with City of Banning staff and are based on review of existing volume data, surrounding land uses, designated truck routes, and the local and regional roadway facilities in the project vicinity.

Project AM and PM peak hour intersection turning movement volumes expected from the project are depicted on Figure 16 and Figure 17, respectively.

## SITE ACCESS

This analysis assumes the following improvements will be constructed by the project to provide project site access, as necessary based on the City of Banning General Plan classification for Lincoln Street as a Major Highway or Arterial Highway (100 to 110-foot right-of-way):

- Project West Driveway (NS) at Lincoln Street (EW) [Study Intersection #2]
  - Construct one inbound lane for truck ingress only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project Central-West Driveway (NS) at Lincoln Street (EW) [Study Intersection #3]
  - Construct one inbound lane and one outbound lane with southbound stop-control for passenger car access only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project Central-East Driveway (NS) at Lincoln Street (EW) [Study Intersection #4]
  - Construct one outbound lane with southbound stop-control for truck egress only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project East Driveway/12th Street (NS) at Lincoln Street (EW) [Study Intersection #5]
  - Construct one outbound lane with southbound stop-control for truck egress only
  - Northbound: one shared left/through/right turn lane
  - Eastbound: one shared left/through/right turn lane
  - Westbound: one shared left/through/right turn lane

## Table 2
## Project Trip Generation

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 2 | 3 | 5 | 2 | 2 | 4 | 19 |
| Trucks (3-Axle) | | | 2 | 0 | 2 | 0 | 0 | 0 | 4 |
| Trucks (4+-Axle) | | | 5 | 3 | 8 | 2 | 0 | 2 | 69 |
| Total | | | 12 | 10 | 22 | 4 | 6 | 10 | 191 |
| Trips Generated in Passenger Car Equivalents[3] | | | | | | | | | |
| Existing Brown Strauss Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 3 | 5 | 8 | 3 | 3 | 6 | 29 |
| Trucks (3-Axle) | | | 4 | 0 | 4 | 0 | 0 | 0 | 8 |
| Trucks (4+-Axle) | | | 15 | 9 | 24 | 6 | 0 | 6 | 207 |
| Total | | | 25 | 18 | 43 | 9 | 7 | 16 | 343 |

| Trips Generation Rates Per Acre | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 1.0 AC | | | | | | | |
| Passenger Cars | | | 0.13 | 0.17 | 0.30 | 0.00 | 0.17 | 0.17 | 4.30 |
| Trucks (2-Axle) | | | 0.09 | 0.13 | 0.22 | 0.09 | 0.09 | 0.18 | 0.83 |
| Trucks (3-Axle) | | | 0.09 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.17 |
| Trucks (4+-Axle) | | | 0.22 | 0.13 | 0.35 | 0.09 | 0.00 | 0.09 | 3.00 |
| Total | | | 0.52 | 0.43 | 0.95 | 0.17 | 0.26 | 0.43 | 8.30 |

Notes:

1. Traffic counts at project driveway (see Tables 2 and 3).
2. AC = Acres
3. Source: City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021).
4. The ITE Trip Generation Manual does not include pass-by rates for Land Use Code 937; however, the average pass-by rates for ITE Land Use Code 938 (Coffee Shop With Drive Through Window and No Indoor Seating) are 90% during the AM peak hour and 98% during the PM peak hour. Although the proposed coffee shop (with drive through and indoor seating) is expected to have similar pass-by characteristics, this analysis uses a lower pass-by rate of 80% to provide a conservative assessment.

   2-Axle = 1.5; 3-Axle = 2.0; 4+-Axle = 3.0

## Table 3
## Pro-Rated Project Trip Generation (for Informational Purposes)

| Trips Generation Rates Per Acre | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 1.0 AC | | | | | | | |
| Passenger Cars | | | 0.13 | 0.17 | 0.30 | 0.00 | 0.17 | 0.17 | 4.30 |
| Trucks (2-Axle) | | | 0.09 | 0.13 | 0.22 | 0.09 | 0.09 | 0.18 | 0.83 |
| Trucks (3-Axle) | | | 0.09 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.17 |
| Trucks (4+-Axle) | | | 0.22 | 0.13 | 0.35 | 0.09 | 0.00 | 0.09 | 3.00 |
| Total | | | 0.52 | 0.43 | 0.95 | 0.17 | 0.26 | 0.43 | 8.30 |

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Proposed Brown Strauss Facility | Counts | 14.92 AC | | | | | | | |
| Passenger Cars | | | 2 | 3 | 5 | 0 | 3 | 3 | 64 |
| Trucks (2-Axle) | | | 1 | 2 | 3 | 1 | 1 | 2 | 12 |
| Trucks (3-Axle) | | | 1 | 0 | 1 | 0 | 0 | 0 | 3 |
| Trucks (4+-Axle) | | | 3 | 2 | 5 | 1 | 0 | 1 | 45 |
| Total | | | 7 | 7 | 14 | 2 | 4 | 6 | 124 |
| Trips Generated in Passenger Car Equivalents[3] | | | | | | | | | |
| Proposed Brown Strauss Facility | Counts | 14.92 AC | | | | | | | |
| Passenger Cars | | | 2 | 3 | 5 | 0 | 3 | 3 | 64 |
| Trucks (2-Axle) | | | 2 | 3 | 5 | 2 | 2 | 4 | 18 |
| Trucks (3-Axle) | | | 2 | 0 | 2 | 0 | 0 | 0 | 6 |
| Trucks (4+-Axle) | | | 9 | 6 | 15 | 3 | 0 | 3 | 135 |
| Total | | | 15 | 12 | 27 | 5 | 5 | 10 | 223 |

Notes:

1. Traffic counts at project driveway (see Tables 2, 3 and 4).
2. AC = Acres
3. Source: City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021).
4. The ITE Trip Generation Manual does not include pass-by rates for Land Use Code 937; however, the average pass-by rates for ITE Land Use Code 938 (Coffee Shop With Drive Through Window and No Indoor Seating) are 90% during the AM peak hour and 98% during the PM peak hour. Although the proposed coffee shop (with drive through and indoor seating) is expected to have similar pass-by characteristics, this analysis uses a lower pass-by rate of 80% to provide a conservative assessment.

   2-Axle = 1.5; 3-Axle = 2.0; 4+-Axle = 3.0

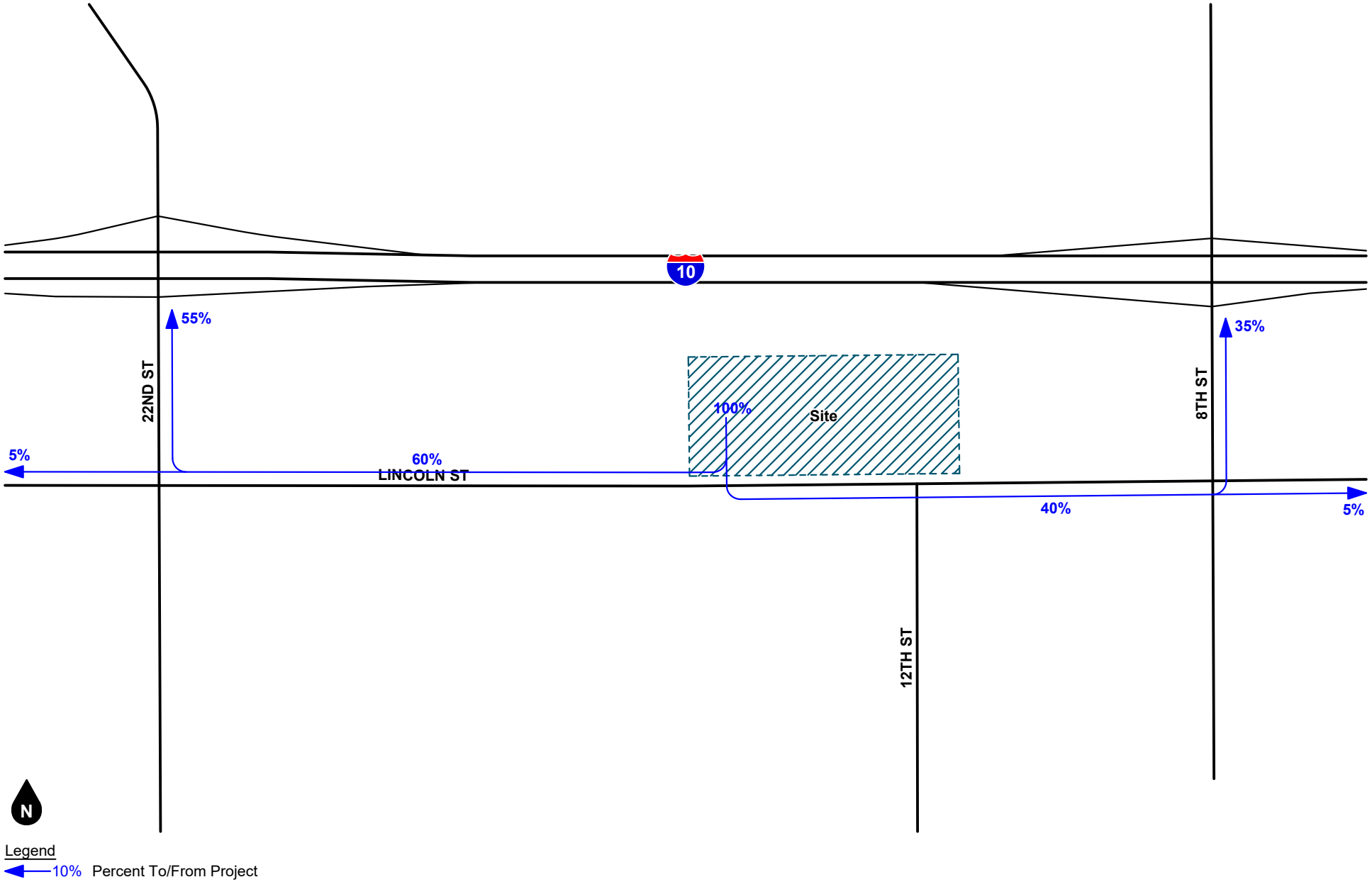



**Figure 13**
**Project Trip Distribution - Passenger Cars**

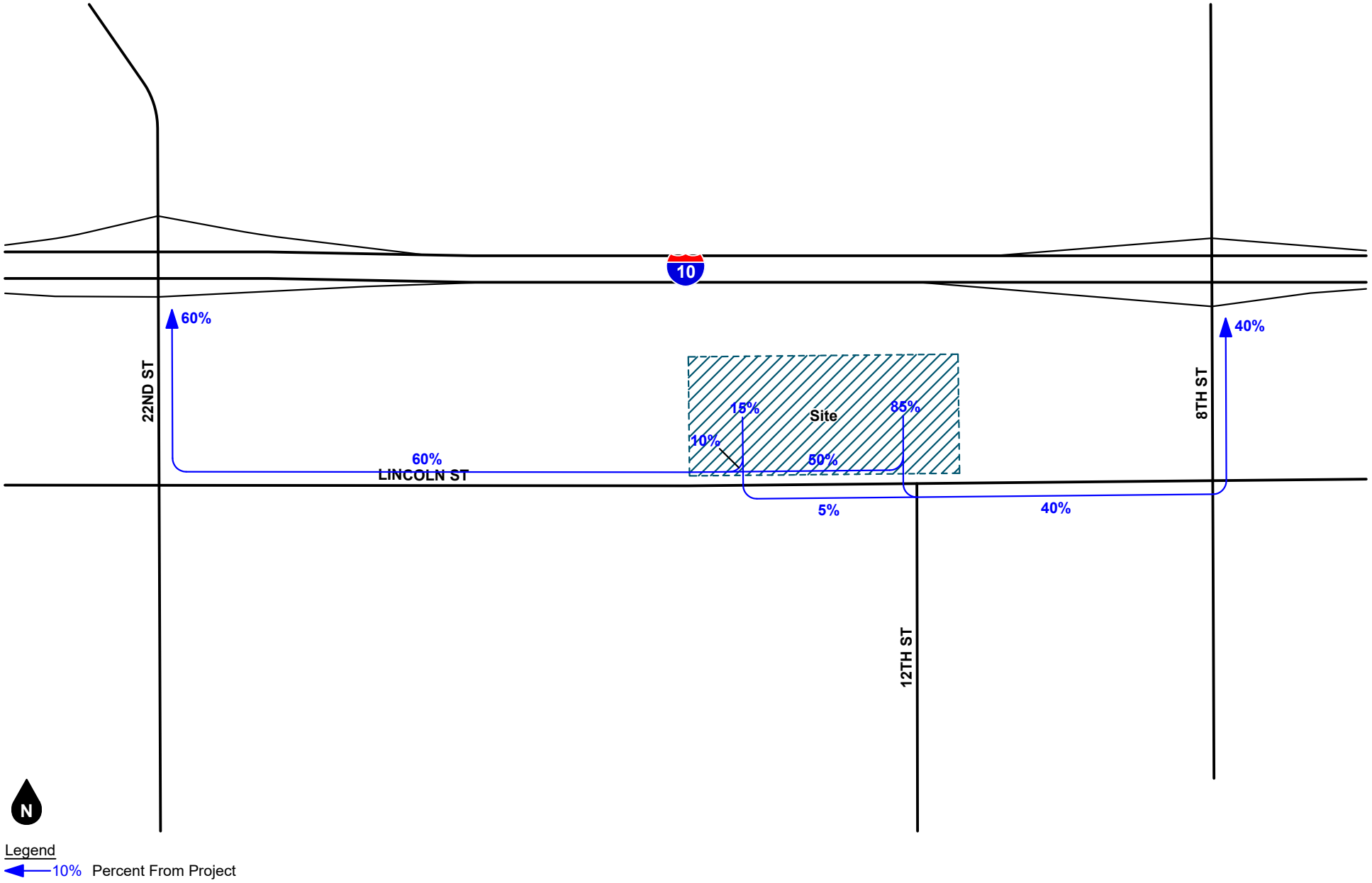



**Figure 14**
**Project Outbound Trip Distribution - Trucks**

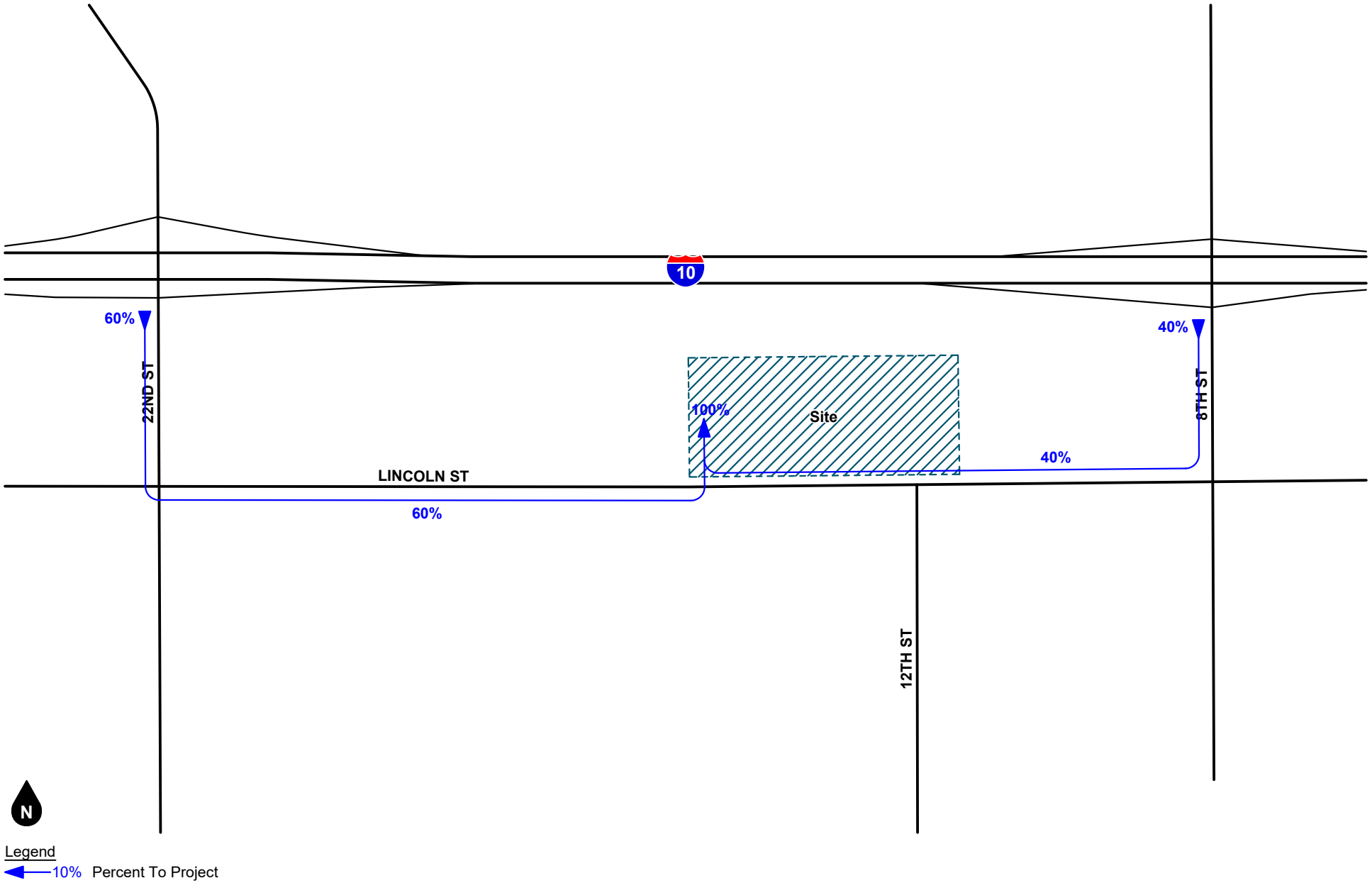



**Figure 15**
**Project Inbound Trip Distribution - Trucks**

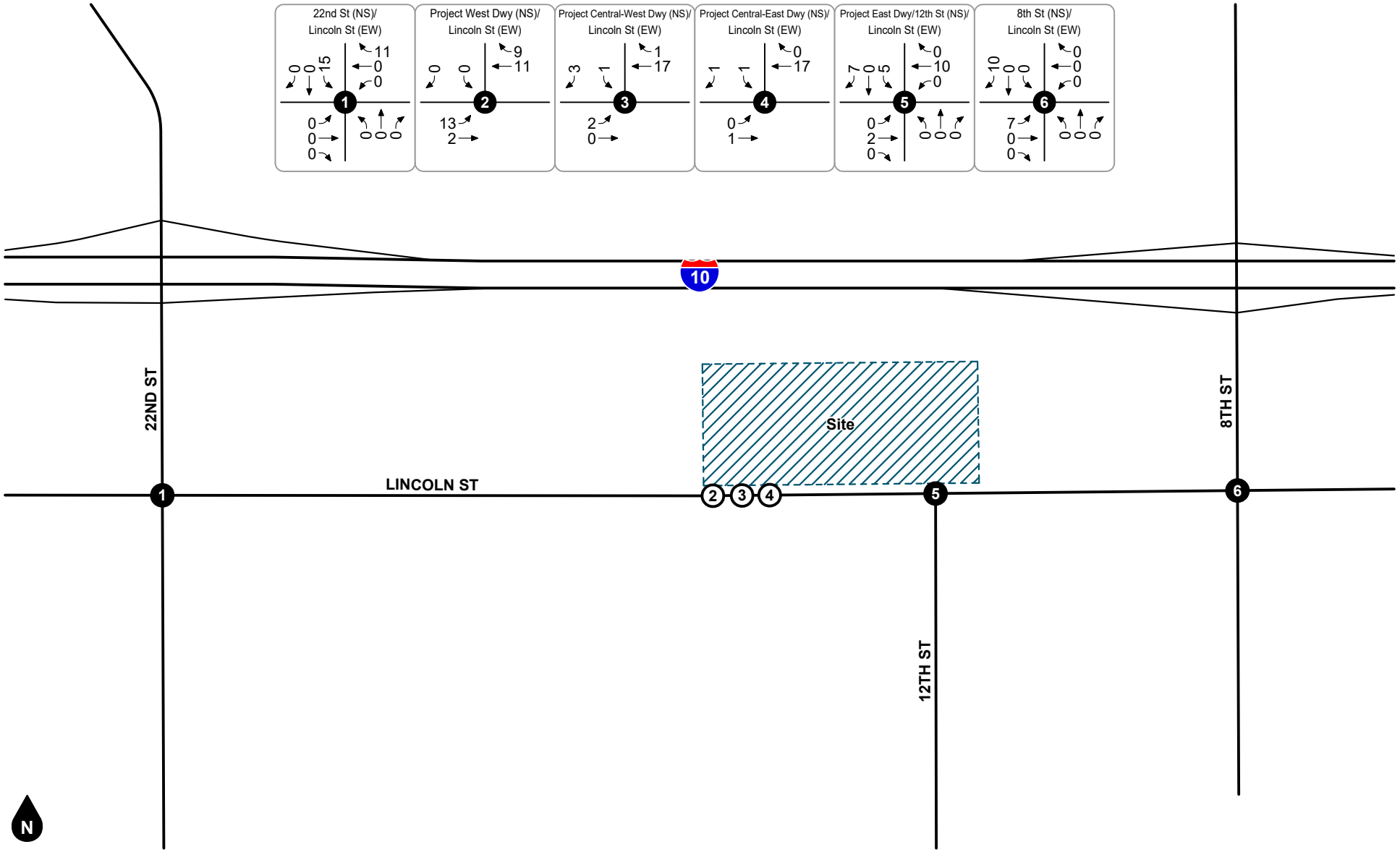



**Figure 16**
**Project AM Peak Hour Intersection Turning Movement Volumes**

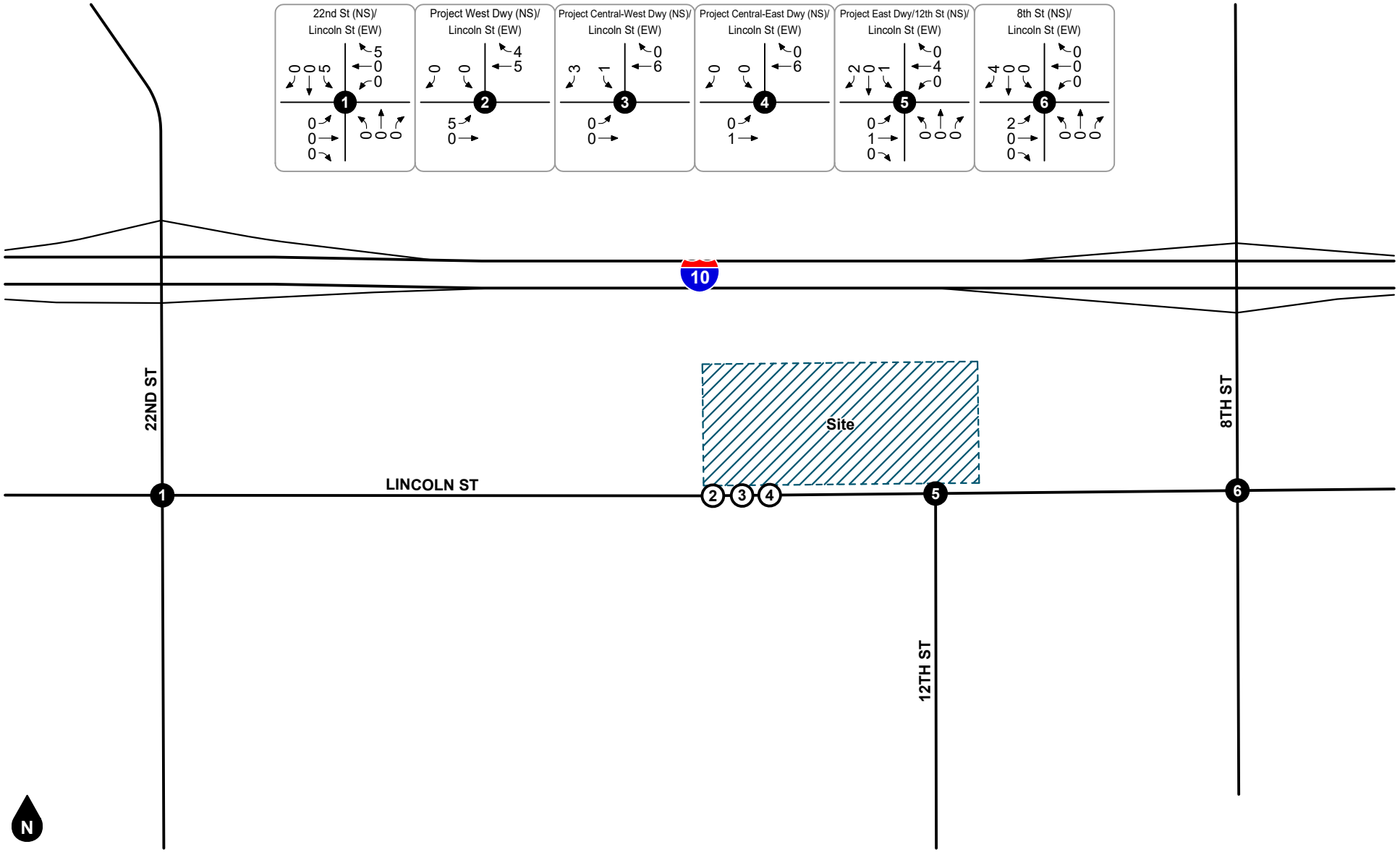



**Figure 17**
**Project PM Peak Hour Intersection Turning Movement Volumes**

# 5. FUTURE VOLUME FORECASTS

This section describes how future volume forecasts for each analysis scenario were developed. Forecast study area volumes are illustrated on figures contained in this section.

## CUMULATIVE TRIPS

### Ambient Growth Rate

To account for ambient growth on roadways, existing 2023 roadway volumes were increased by a growth rate of two percent (2%) per year over two years for Opening Year (2025) conditions. This equates to a total growth factor of approximately 1.0404. The ambient growth rate was conservatively applied to all movements at the study intersections.

### Other Development

To account for trips generated by future development, trips generated by pending or approved other development projects in the City of Banning were added to the study area. Table 4 shows the other development trip generation and Figure 18 exhibits the other development location map.

Figure 19 and Figure 20 show the forecast AM and PM peak hour intersection turning movement volumes for trips generated by other developments.

## ANALYSIS SCENARIO VOLUME FORECASTS

### Opening Year Conditions (2025)

Opening Year Conditions (2025) volume forecasts were developed by adding ambient growth to Existing volumes. Opening Year Conditions (2025) AM and PM peak hour intersection turning movement volumes are shown on Figure 21 and Figure 22.

### Opening Year Conditions With Project (2025)

Opening Year Conditions With Project (2025) volume forecasts were developed by adding project traffic to Opening Year Conditions (2025) forecast volumes. Opening Year Conditions With Project (2025) AM and PM peak hour intersection turning movement volumes are shown Figure 23 and Figure 24.

### Cumulative Conditions (2025)

Cumulative Conditions (2025) volume forecasts were developed by adding traffic generated from approved and pending development projects to Opening Year Conditions (2025) forecast volumes. Cumulative Conditions (2025) AM and PM peak hour intersection turning movement volumes are shown on Figure 25 and Figure 26.

### Cumulative Conditions With Project (2025)

Cumulative Conditions With Project (2025) volume forecasts were developed by adding project traffic to Cumulative Conditions (2025) forecast volumes. Cumulative Conditions With Project (2025) AM and PM peak hour intersection turning movement volumes are shown on Figure 27 and Figure 28.

## Table 4
## Other Development Trip Generation

| Map ID | Project Name | Land Use | Quantity | Units[1] | Trips Generated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | | PM Peak Hour | | | |
| | | | | | In | Out | Total | In | Out | Total | Daily |
| 1 | Highway 243 Industrial Center[2] | Light Industrial | 54.130 | TSF | | | | | | | |
| | | - Cars | | | 26 | 4 | 30 | 3 | 24 | 27 | 211 |
| | | - Trucks | | | 17 | 2 | 19 | 0 | 17 | 17 | 127 |
| 2 | TPM 35617[2] | Church | 4.990 | TSF | 29 | 26 | 55 | 26 | 29 | 55 | 237 |
| 3 | Lawrence Equipment[3] | Industrial | 146.890 | TSF | | | | | | | |
| | | - Cars | | | 39 | 12 | 51 | 17 | 39 | 56 | 370 |
| | | - Trucks | | | 10 | 4 | 14 | 4 | 10 | 14 | 94 |
| 4 | Downing Const. Corp[2] | Offiice | 9.320 | TSF | 9 | 2 | 11 | 2 | 9 | 11 | 91 |
| 5 | DR 18-7006[2] | Residential | 13 | DU | 2 | 7 | 9 | 8 | 5 | 13 | 123 |
| **Total** | | | | | **132** | **57** | **189** | **60** | **133** | **193** | **1,253** |

Notes:
(1) TSF = Thousand Square Feet; DU = Dwelling Units

(2) Source: *Traffic Impact Analysis for Highway 243 Industrial Center* (LSA, October 2019)

(3) Source: *Traffic Impact Report for Lawrence Equipment Warehouse* (Linscott, Law & Greenspan, Engineers, January 14, 2019)

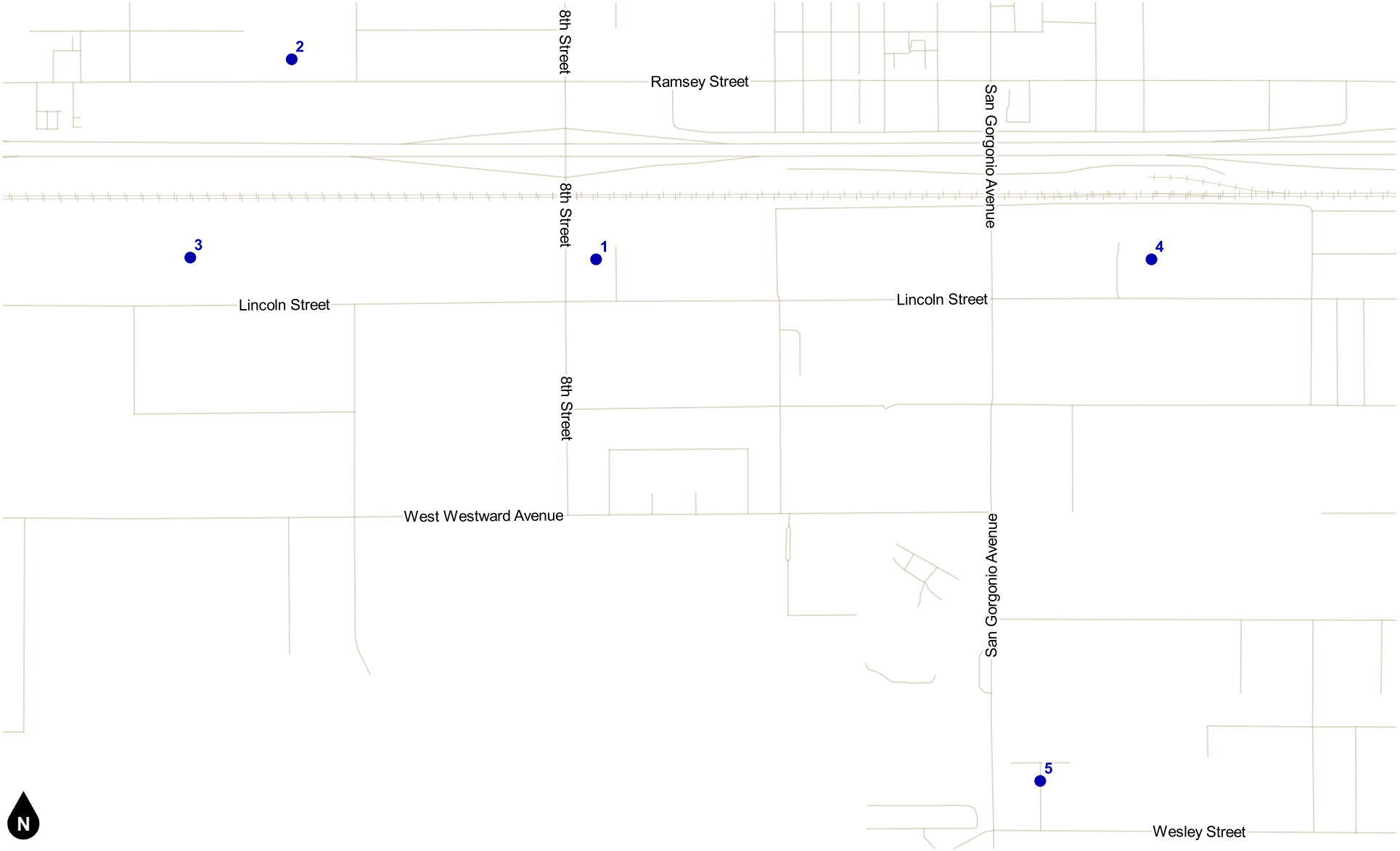
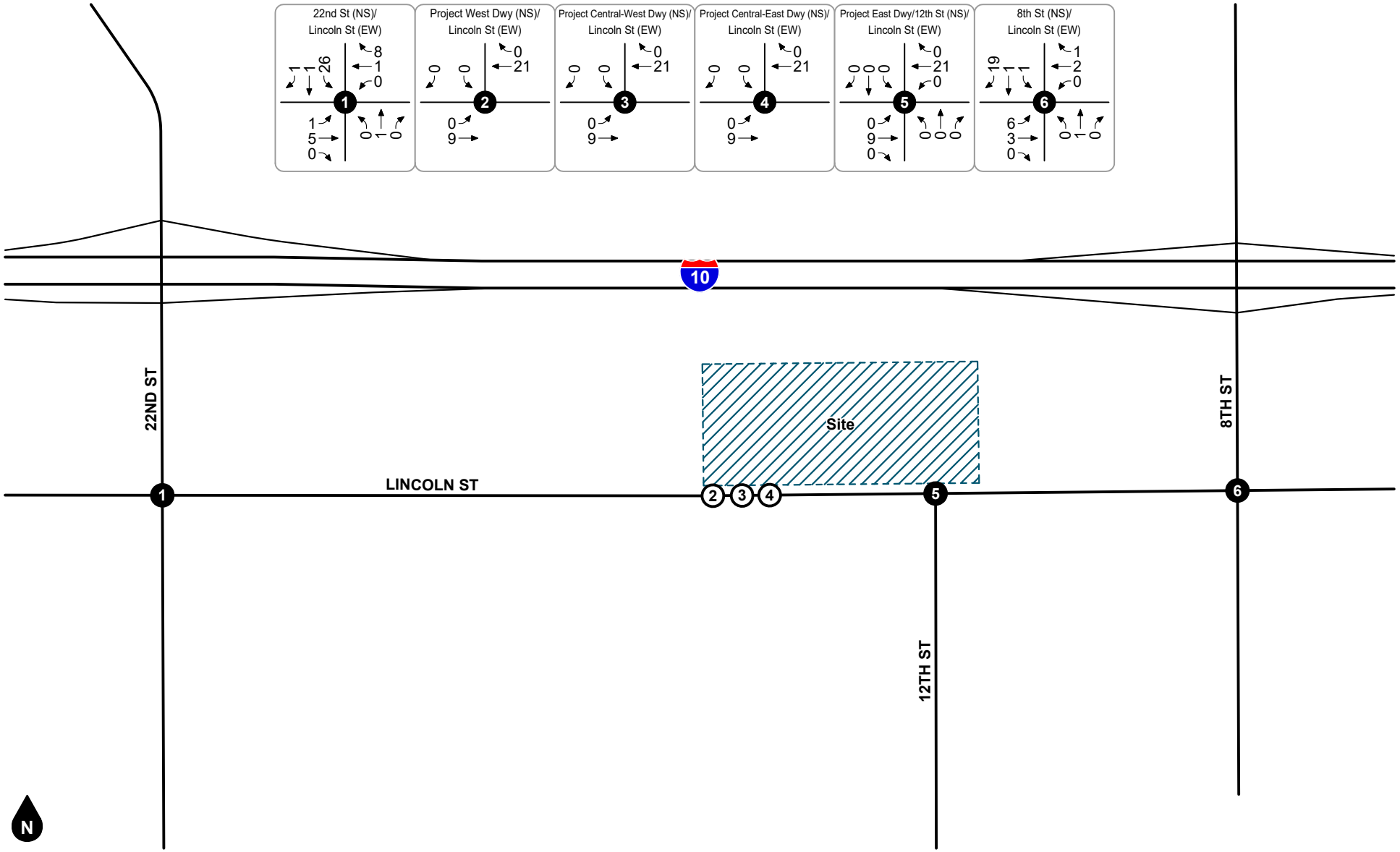



**Figure 18**
**Other Development Location Map**

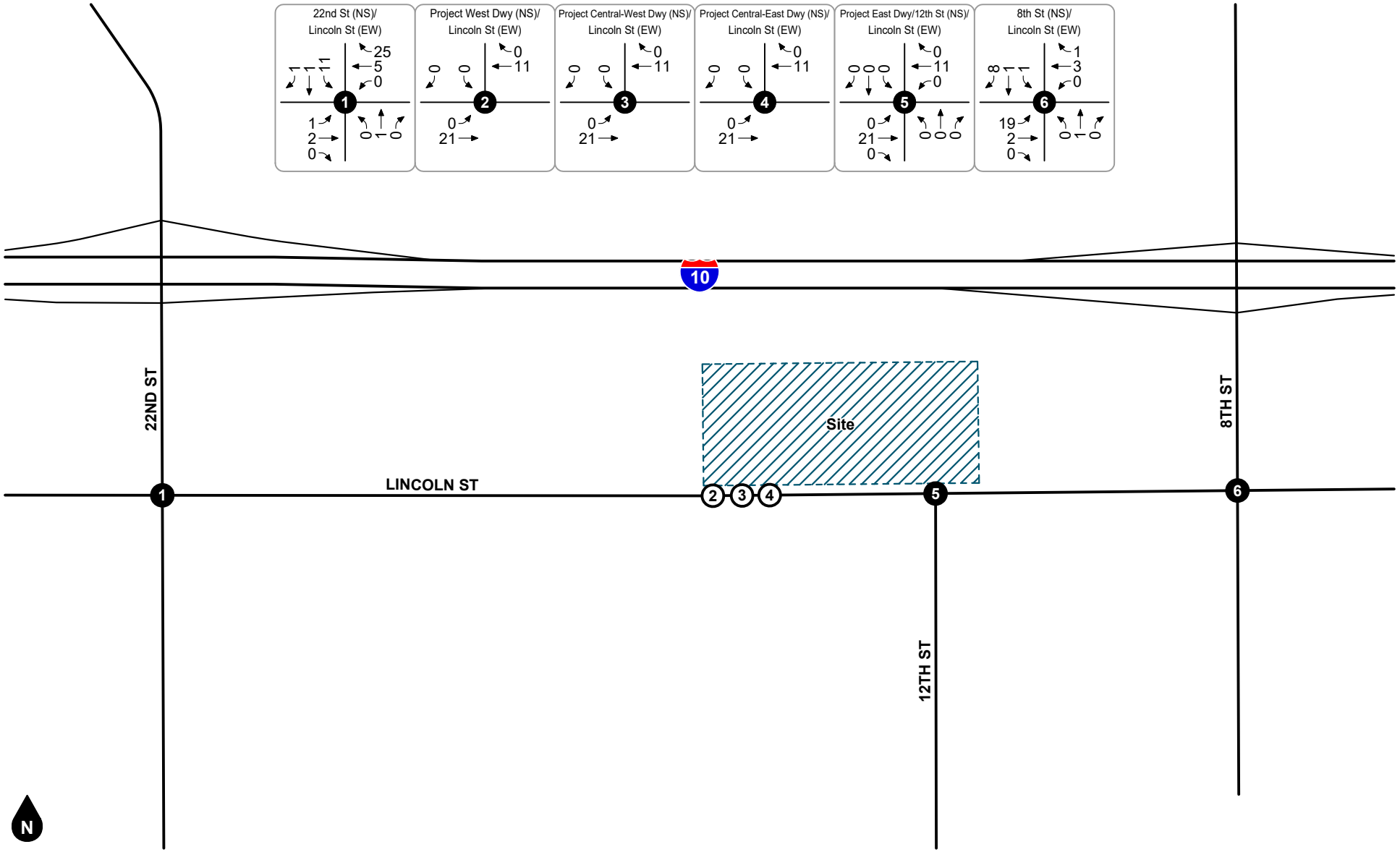



Legend

(#) Study Intersection

(#) Project Driveway

**Figure 19**
**Other Development**
**AM Peak Hour Intersection Turning Movement Volumes**

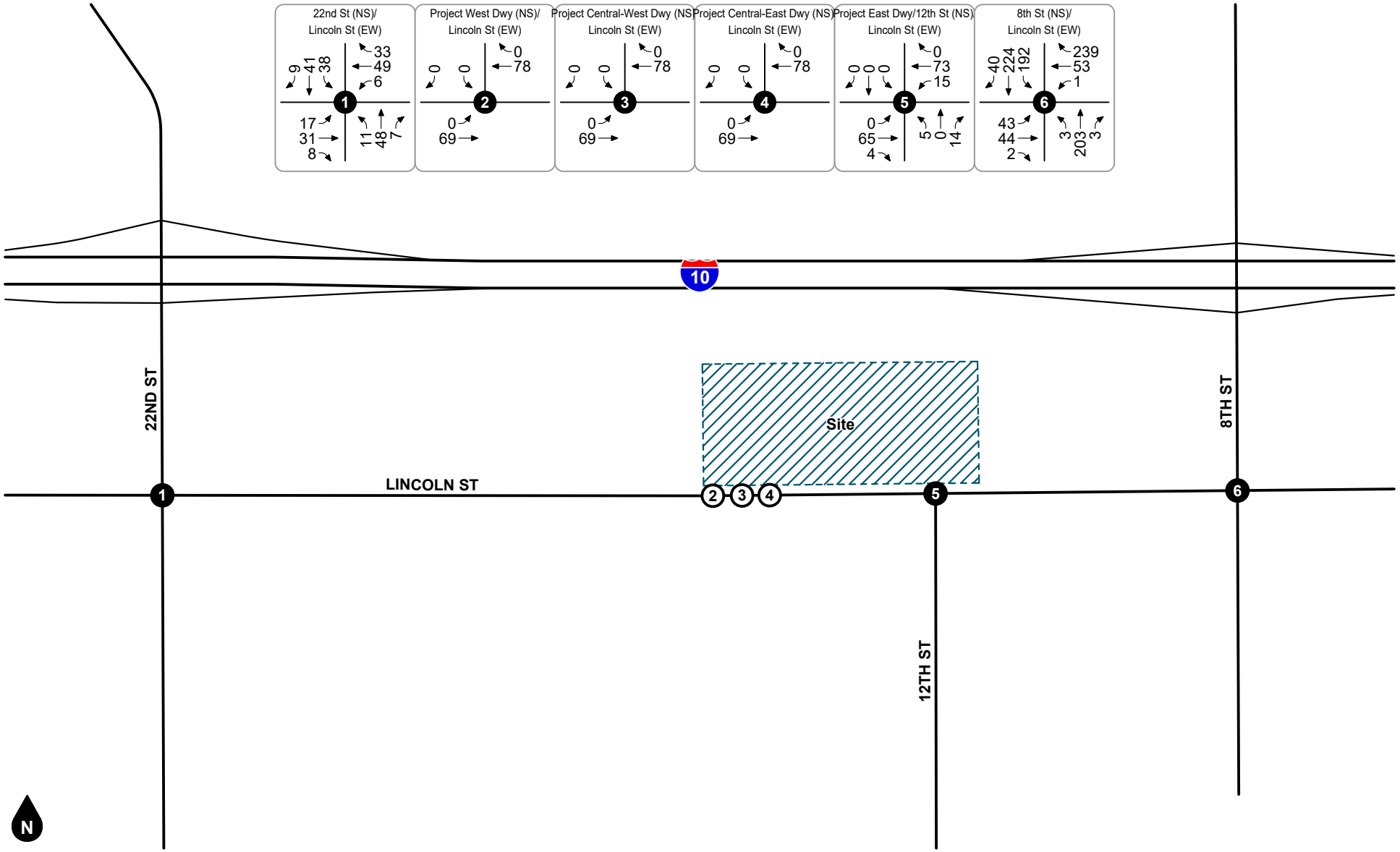



Legend

(#) Study Intersection

(#) Project Driveway

**Figure 20**
**Other Development**
**PM Peak Hour Intersection Turning Movement Volumes**




Legend

# Study Intersection

(#) Project Driveway

**Figure 21**
**Opening Year Conditions (2025)**
**AM Peak Hour Intersection Turning Movement Volumes**

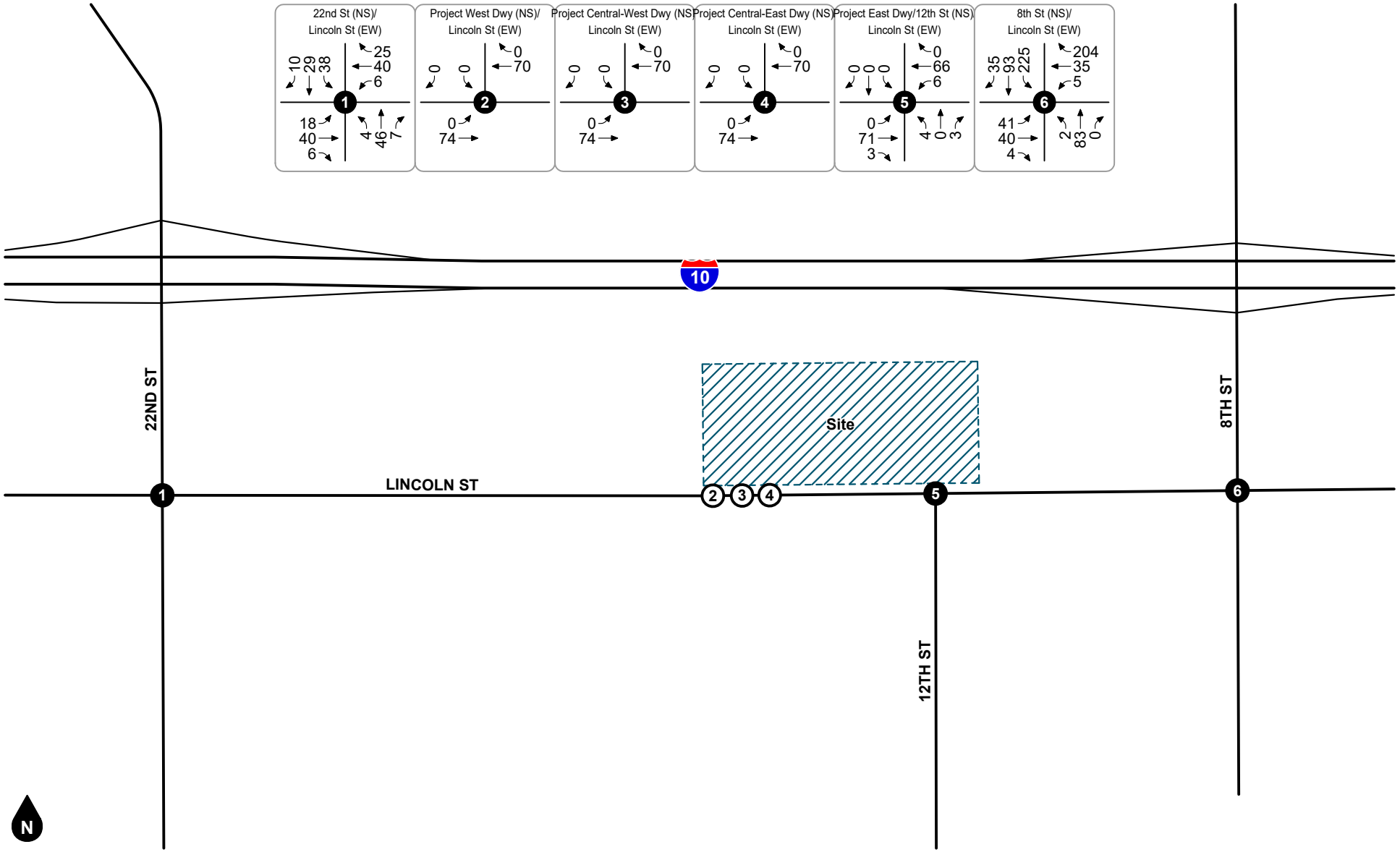
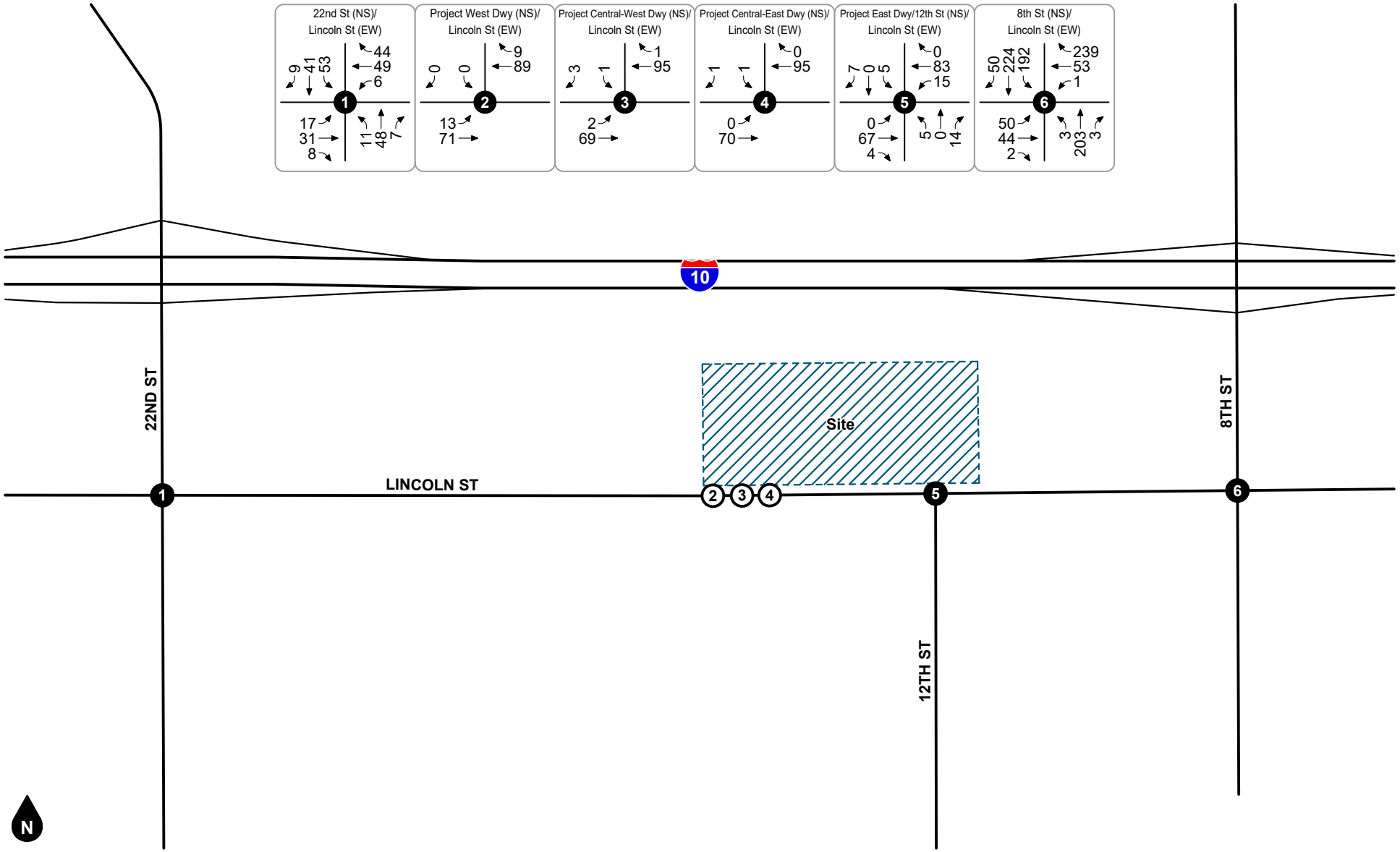



**Figure 22**
**Opening Year Conditions (2025)**
**PM Peak Hour Intersection Turning Movement Volumes**

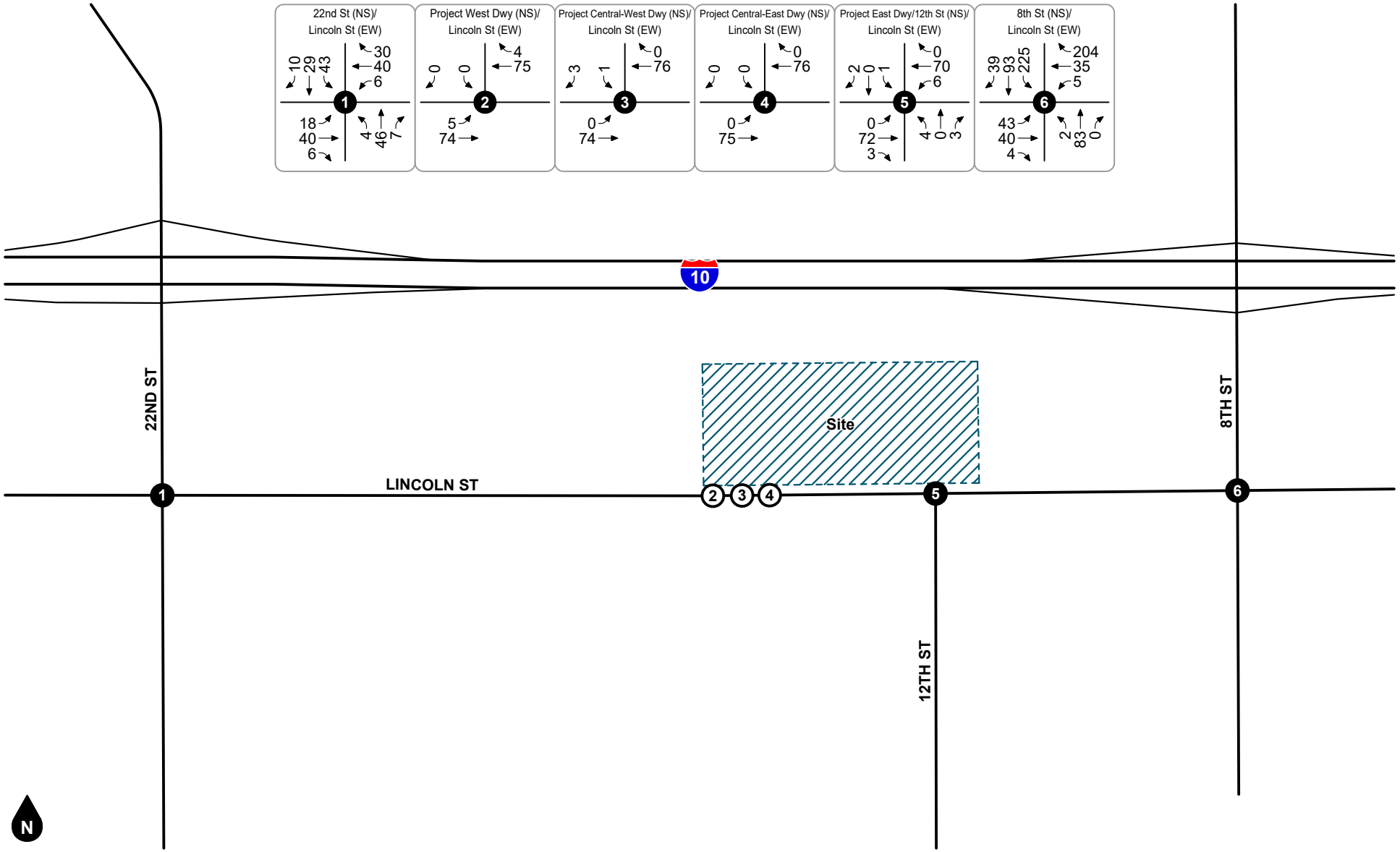



Legend

# Study Intersection

(#) Project Driveway

**Figure 23**
**Opening Year Conditions With Project (2025)**
**AM Peak Hour Intersection Turning Movement Volumes**

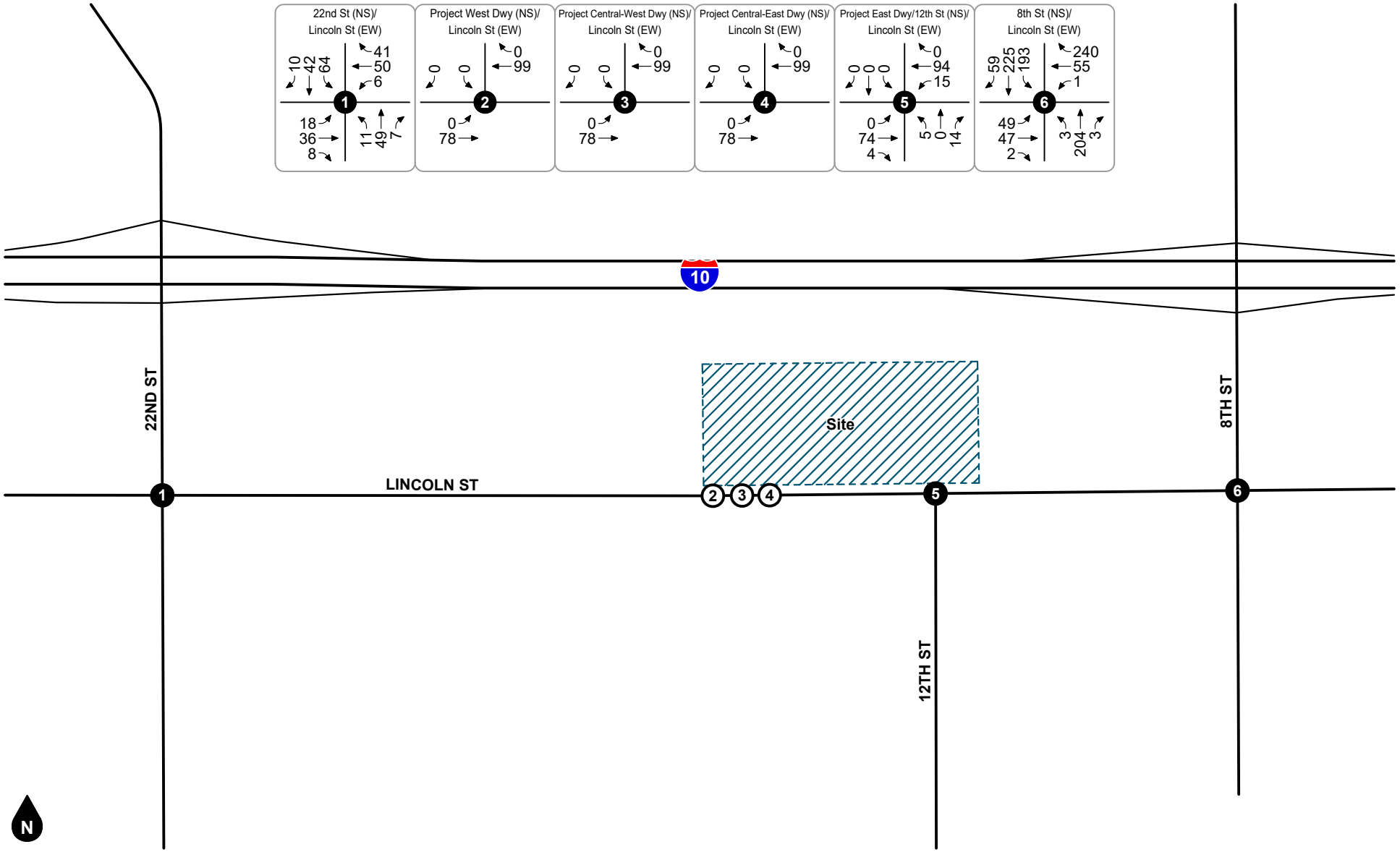



Legend

# Study Intersection

(#) Project Driveway

**Figure 24**
**Opening Year Conditions With Project (2025)**
**PM Peak Hour Intersection Turning Movement Volumes**




Legend

# Study Intersection

(#) Project Driveway

**Figure 25**
**Cumulative Conditions (2025)**
**AM Peak Hour Intersection Turning Movement Volumes**

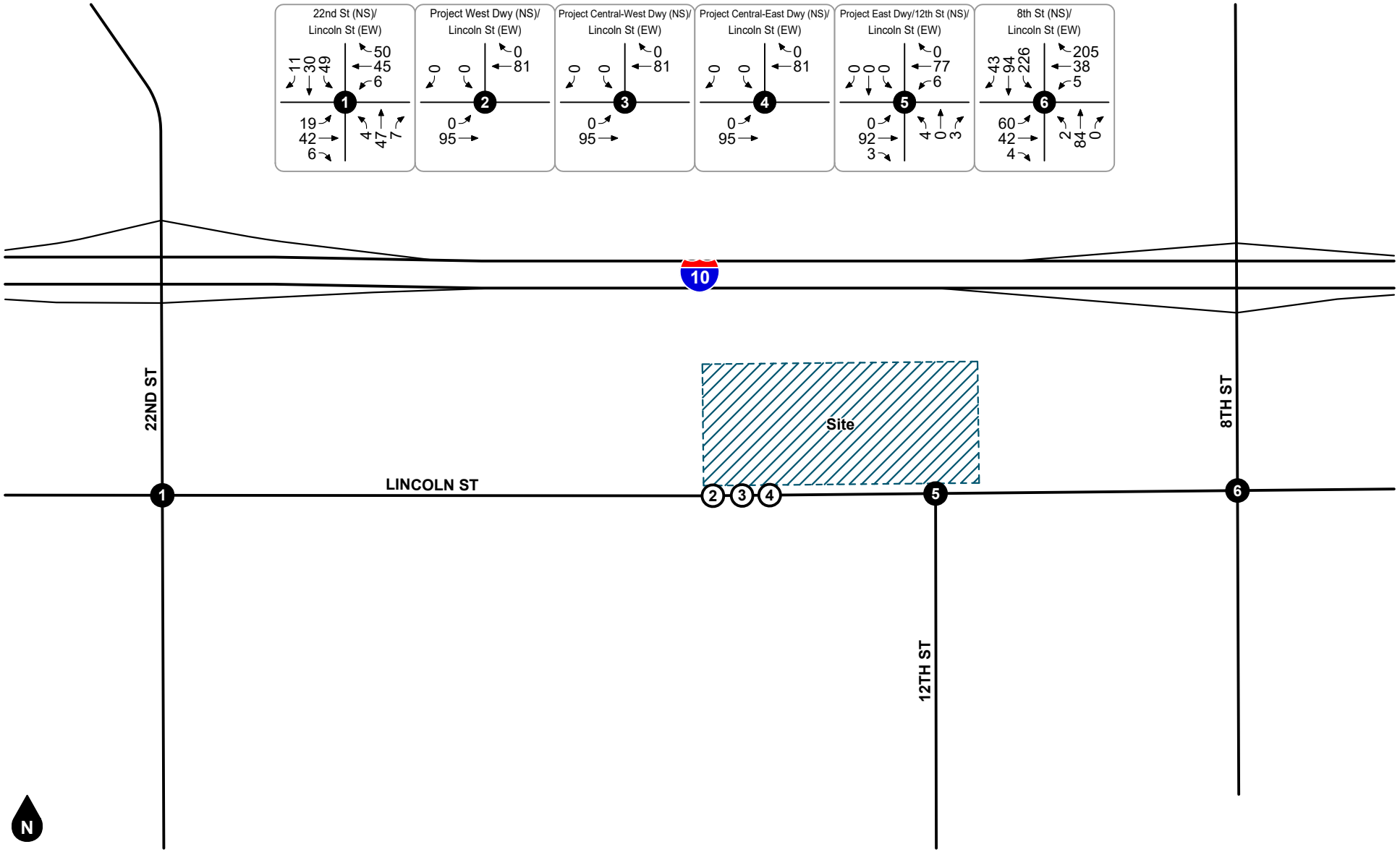



**Figure 26**
**Cumulative Conditions (2025)**
**PM Peak Hour Intersection Turning Movement Volumes**

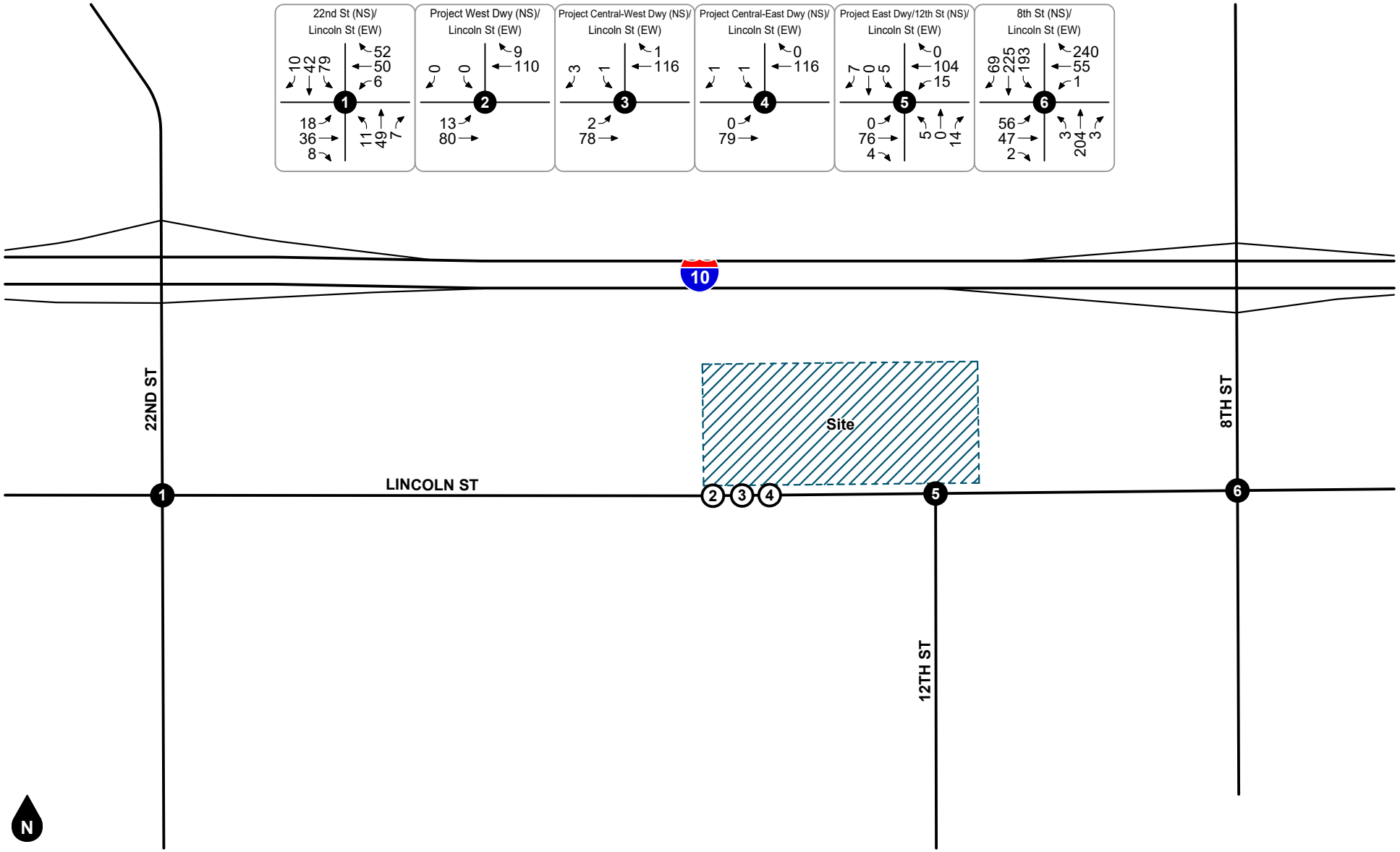
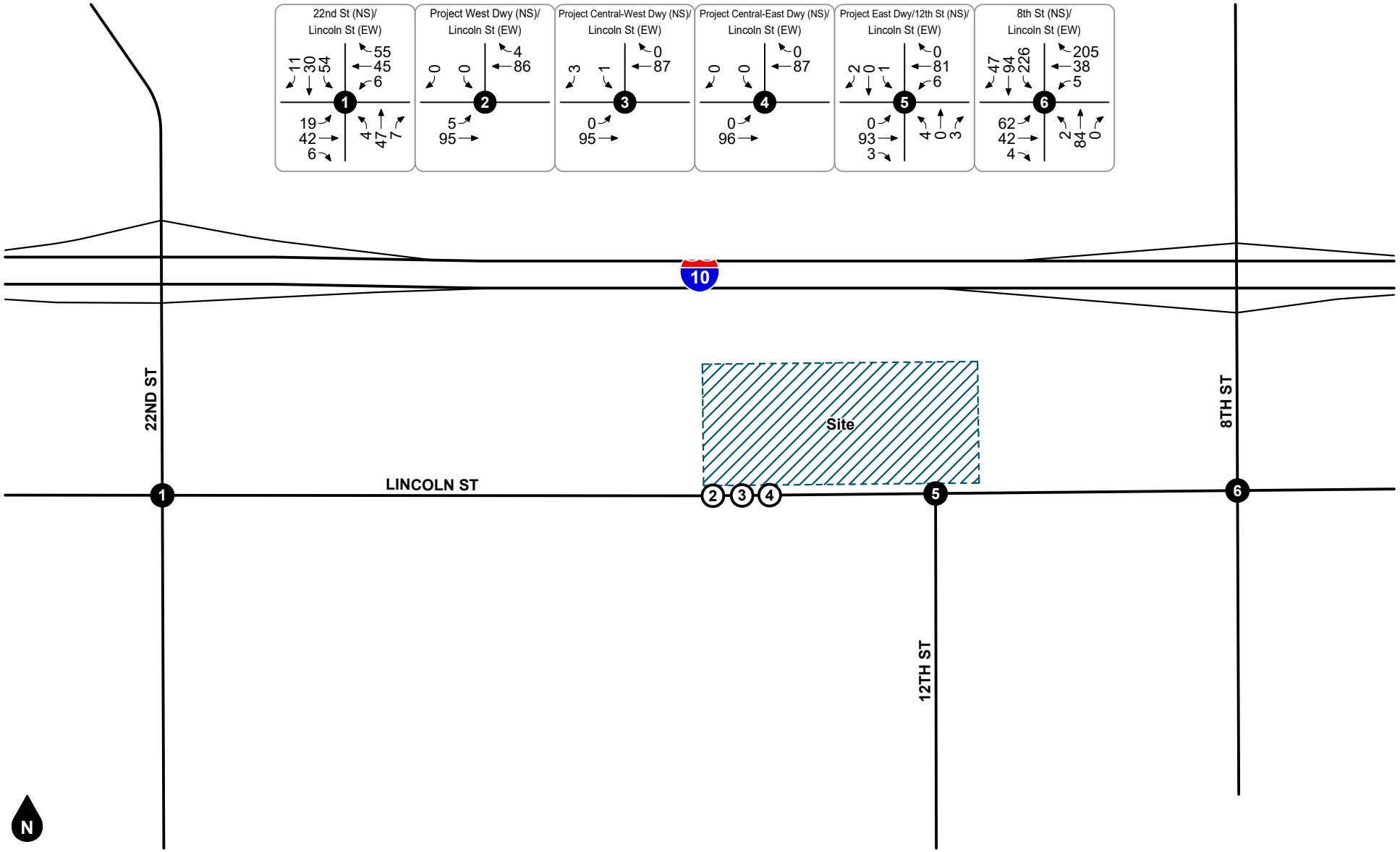



**Figure 27**
**Cumulative Conditions With Project (2025)**
**AM Peak Hour Intersection Turning Movement Volumes**




Legend

# Study Intersection

(#) Project Driveway

**Figure 28**
**Cumulative Conditions With Project (2025)**
**PM Peak Hour Intersection Turning Movement Volumes**

# 6. FUTURE OPERATIONAL ANALYSIS

Detailed intersection Level of Service calculation worksheets for each of the following analysis scenarios are provided in Appendix D.

### OPENING YEAR CONDITIONS (2025)

The intersection Levels of Service for Opening Year Conditions (2025) are shown in Table 5. As shown in Table 5, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year Conditions (2025), except for the following study intersection that is forecast to operate at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The intersection Levels of Service for Opening Year Conditions With Project (2025) are also shown in Table 5.. As shown in Table 5, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year Conditions With Project (2025), except for the following study intersection that is forecast to continue operating at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

As also shown in Table 5, the addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Opening Year Conditions With Project (2025).

### CUMULATIVE CONDITIONS (2025)

The intersection Levels of Service for Cumulative Conditions (2025) are shown in Table 6. As shown in Table 6, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Cumulative Conditions (2025), except for the following study intersection that is forecast to operate unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The intersection Levels of Service for Cumulative Conditions With Project (2025) are also shown in Table 6. As shown in Table 6, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Cumulative Conditions With Project (2025), except for the following study intersection that is forecast to operate at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

As also shown in Table 6, the addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Cumulative Conditions With Project (2025).

**Table 5**
**Opening Year Conditions (2025) Intersection Levels of Service**

| Study Intersection | Traffic Control[1] | Without Project | | | | With Project | | | | Net Change | | Substantial Impact? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | PM Peak Hour | |
| | | Delay[2] | LOS[3] | Delay[2] | LOS[3] | Delay[2] | LOS[3] | Delay[2] | LOS[3] | | | |
| 1. 22nd St at Lincoln St | AWS | 8.0 | A | 7.9 | A | 8.2 | A | 7.9 | A | +0.2 | 0 | No |
| 2. Project West Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 9.2 | A | 9.0 | A | n/a | n/a | No |
| 3. Project Central-West Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 8.9 | A | 8.8 | A | n/a | n/a | No |
| 4. Project Central-East Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 9.1 | A | 9.0 | A | n/a | n/a | No |
| 5. Project East Dwy/12th St at Lincoln St | CSS | 9.0 | A | 9.2 | A | 9.3 | A | 9.3 | A | +0.3 | +0.1 | No |
| 6. 8th St at Lincoln St | AWS | 39.7 | E | 13.0 | B | 40.4 | E | 13.0 | B | +0.7 | 0 | No |

Notes:

(1) AWS = All Way Stop; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach or major street left turn movement.

(3) LOS = Level of Service

**Table 6**
**Cumulative Conditions (2025) Intersection Levels of Service**

| Study Intersection | Traffic Control[1] | Without Project | | | | With Project | | | | Net Change | | Substantial Impact? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | PM Peak Hour | |
| | | Delay[2] | LOS[3] | Delay[2] | LOS[3] | Delay[2] | LOS[3] | Delay[2] | LOS[3] | | | |
| 1. 22nd St at Lincoln St | AWS | 8.3 | A | 8.0 | A | 8.4 | A | 8.1 | A | +0.1 | +0.1 | No |
| 2. Project West Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 9.3 | A | 9.1 | A | n/a | n/a | No |
| 3. Project Central-West Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 9.1 | A | 8.9 | A | n/a | n/a | No |
| 4. Project Central-East Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 9.2 | A | 9.1 | A | n/a | n/a | No |
| 5. Project East Dwy/12th St at Lincoln St | CSS | 9.2 | A | 9.5 | A | 9.5 | A | 9.5 | A | +0.3 | 0 | No |
| 6. 8th St at Lincoln St | AWS | 41.5 | E | 13.3 | B | 42.3 | E | 13.3 | B | +0.8 | 0 | No |

Notes:

(1) AWS = All Way Stop; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach or major street left turn movement.

(3) LOS = Level of Service

# 7. GENERAL PLAN AMENDMENT ANALYSIS

The project involves a General Plan Amendment/Zone Change for a portion of the site from Industrial (I) and General Commercial (CC) to Industrial (I). This section evaluates whether the proposed General Plan Amendment has the potential to exceed impacts associated with buildout of the current General Plan.

### GENERAL PLAN BUILDOUT TRIP GENERATION COMPARISON

The project is composed of the following three parcels:

- APN 540-190-020 (2.45 acres): Currently designated Industrial (I) - no change proposed
- APN 540-180-026 (8.17 acres): Currently designated Industrial (I) - no change proposed
- APN 540-180-022 (4.30 acres): Currently designated General Commercial (GC) - proposed amendment to Industrial (I)

Table 7 shows a trip generation comparison between maximum buildout potential of the existing General Commercial (GC) and proposed Industrial (I) land use designations based on rates obtained from the ITE *Trip Generation Manual* (11th Edition, 2021). Based on review of the ITE land use description, trip generation rates for shopping plaza (40k-159k) (Land Use Code 821) and general light industrial (Land Use Code 110) were determined to adequately represent the existing and proposed land use designations and were selected for use in this analysis. These land use codes most closely correspond with the General Plan land use designations. The trip generation forecast is determined by multiplying the trip generation rates by the land use quantities.

As shown in Table 7, maximum buildout under the existing General Commercial (GC) land use designation is estimated to generate approximately 6,195 daily trips, including 231 trips during the AM peak hour and 592 trips during the PM peak hour. Maximum buildout under the proposed Industrial (I) land use designation is estimated to generate approximately 547 daily trips, including 83 trips during the AM peak hour and 73 trips during the PM peak hour. Therefore, the proposed General Plan Amendment for APN 540-180-022 is expected to result in approximately 5,648 fewer daily trips generated compared to maximum buildout under the existing General Commercial (GC) land use designation, including 148 fewer trips during the AM peak hour and 519 fewer trips during the PM peak hour.

### GENERAL PLAN BUILDOUT ANALYSIS FINDINGS

Since maximum potential buildout of APN 540-180-022 is forecast to generate fewer trips with the proposed Industrial (I) land use designation compared to the existing General Commercial (GC) land use designation, the proposed General Plan Amendment would not exceed impacts associated with buildout of the current General Plan.

## Table 7
## General Plan Amendment Trip Generation Comparison

| Trip Generation Rates | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Unit[2] | % In | % Out | Rate | % In | % Out | Rate | Daily |
| Shopping Plaza (40-150k) | ITE 821 | TSF | 62% | 38% | 3.53 | 48% | 52% | 9.03 | 94.49 |
| General Light Industrial | ITE 110 | TSF | 88% | 12% | 0.74 | 14% | 86% | 0.65 | 4.87 |

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Quantity[3] | Unit[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Land Use | | | | | | | | | |
| Shopping Plaza (40-150k) | 65.558 | TSF | 143 | 88 | 231 | 284 | 308 | 592 | 6,195 |
| Proposed Land Use | | | | | | | | | |
| General Light Industrial | 112.385 | TSF | 73 | 10 | 83 | 10 | 63 | 73 | 547 |
| **NET PROJECT TRIPS GENERATED** | | | **-70** | **-78** | **-148** | **-274** | **-245** | **-519** | **-5,648** |

Notes:

(1) ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code

(2) TSF = Thousand Square Feet (Gross Floor Area)

(3) The City of Banning Municipal Code Table 17.12.030 states that General Commercial (GC) has a maximum building coverage of 35% and Industrial (I) has a maximum building coverage of 60%. Parcel 540-180-022 is zoned as General Commercial (GC) and is 4.3 acres (187,308 square feet). This zone at a maximum of 35% General Commercial (GC) equates to 65,558 square feet and at a maximum of 60% Industrial (I)equates to 112,385 square feet.

# 8. SITE ACCESS AND CIRCULATION

This section includes a description of project improvements necessary to provide site access.

### PROJECT DESIGN FEATURES

This analysis assumes the following improvements will be constructed by the project to provide project site access, as necessary based on the City of Banning General Plan classification for Lincoln Street as a Major Highway or Arterial Highway (100 to 110-foot right-of-way):

- Project West Driveway (NS) at Lincoln Street (EW) [Study Intersection #2]
  - Construct one inbound lane for truck ingress only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project Central-West Driveway (NS) at Lincoln Street (EW) [Study Intersection #3]
  - Construct one inbound lane and one outbound lane with southbound stop-control for passenger car access only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project Central-East Driveway (NS) at Lincoln Street (EW) [Study Intersection #4]
  - Construct one outbound lane with southbound stop-control for truck egress only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project East Driveway/12th Street (NS) at Lincoln Street (EW) [Study Intersection #5]
  - Construct one outbound lane with southbound stop-control for truck egress only
  - Northbound: one shared left/through/right turn lane
  - Eastbound: one shared left/through/right turn lane
  - Westbound: one shared left/through/right turn lane

This analysis also assumes the project shall comply with the following or similar conditions as part of the City of Banning standard development review process:

- A construction work site traffic control plan shall comply with State standards set forth in the California Manual of Uniform Traffic Control Devices and shall be submitted to the City for review and approval prior to the issuance of a grading permit or start of construction. The plan shall identify any roadway, sidewalk, bike route, or bus stop closures and detours as well as haul routes and hours of operation. All construction related trips shall be restricted to off-peak hours to the extent possible.

- All on-site and off-site roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project shall be constructed in accordance with applicable State/Federal engineering standards to the satisfaction of the City of Banning.

- Site-adjacent roadways shall be constructed or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Banning.

- Adequate emergency vehicle access shall be provided to the satisfaction of the Riverside County Fire Authority.

- The final grading, landscaping, and street improvement plans shall demonstrate that sight distance requirements are met in accordance with applicable City of Banning/California Department of Transportation sight distance standards.

### TRUCK TURNING TEMPLATES

Truck turning path analysis for trucks entering/exiting the project site driveways on Lincoln Street is provided in Appendix F. Based on the truck turning path analysis, the project driveways are expected to adequately accommodate truck turning movements to/from Lincoln Street.

### ACCESS GATE QUEUING ANALYSIS

Queuing at the proposed access gate on the westernmost truck ingress only driveway was evaluated to ensure adequate storage lengths are provided and vehicle queues do not overflow into the public right-of-way or obstruct on-site circulation.

The gate queueing analysis was performed based on procedures outlined in *Transportation and Land Development* (Institute of Transportation Engineers, 1988). The methodology estimates the number of queued vehicles at a service point based on a Poisson distribution for estimating the effect of surges and random arrivals. Additional inputs include the demand rate, number of service lanes, service rate, and the desired confidence interval. Service rate capacities determined from *Entrance-Exit Design and Control for Major Parking Facilities* (Crommelin, 1972). A 95 percent confidence interval was used to determine the queue that is not exceeded five times out of 100 intervals. Demand flow is based on the number of inbound truck vehicle trips (i.e., non-PCE). The queue length for the service position (i.e., first truck checking in with the guard) is evaluated as 100 feet for extra spacing from the gate, followed by 80 feet of queue for each subsequent truck waiting in the queue (i.e., approximately 6 feet of spacing between each truck). Detailed worksheets are provided in Appendix G.

Table 8 summarizes the access gate queuing analysis for the inbound Project West Driveway on Lincoln As shown in Table 8, the access gate entrance provides approximately 25 feet of storage length from Lincoln Street, which is insufficient to accommodate the forecast queue length of 100 feet (approximately one truck) during the peak hours. The gate exits at the other project driveways provide lengthy drive aisles, which are sufficient to accommodate internal truck queuing for exiting trucks during the peak hours.

It is recommended that the entrance gate at the Project West Driveway is either moved north into the project site to allow for at least 100 feet of queuing capacity from Lincoln Street or always remain open during operating hours so that trucks do not need to wait for the gate to open.

### DRIVEWAY SPACING ANALYSIS

Figure 29 shows the distance between project driveways. The central-west project driveway is located approximately 133 feet from the westernmost inbound truck only driveway and 115 feet from the outbound truck only driveway. The easternmost project driveway aligns with 12th Street and is proposed to provide truck egress only. Based on the relatively low turning movement volumes generated by the project, separation of passenger car and truck accesses, and separation of inbound and outbound trucks, the proposed project driveways are expected to function adequately.

**Table 8**
**Access Gate Queuing Analysis**

| Gate / Peak Hour | Demand Flow (veh/hr) | Service Lanes | Service Rate Capacity (veh/hr/ln) | Utilization Factor | Queue Length (feet) | Storage Length (feet) | Adequate Storage Provided |
|---|---|---|---|---|---|---|---|
| Entering | | | | | | | |
| Project West Driveway | | | | | | | |
| AM Peak Hour | 9 | 1 | 195 | 0.05 | 100 | 25 | No |
| PM Peak Hour | 6 | 1 | 195 | 0.03 | 100 | 25 | No |

Notes:

(1) Based on Transportation and Land Development (Institute of Transportation Engineers, 1988) "Applications of Queuing Analysis"; see Appendix G.

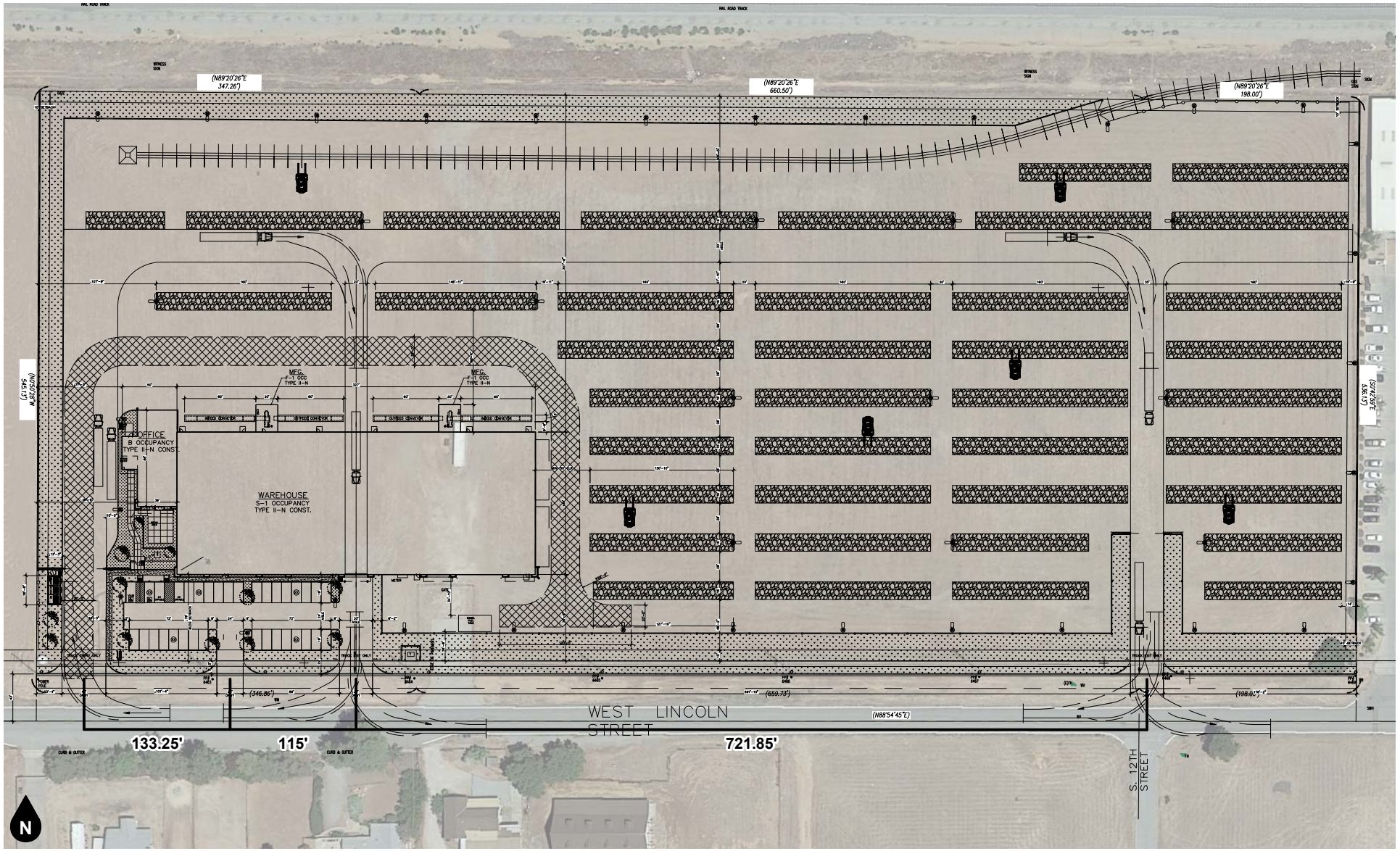



**Figure 29**
**Project Driveway Spacing**

# 9. CONCLUSIONS

This section summarizes the findings and recommended improvements, or mitigation measures (if any) identified in previous sections of this study.

### PROJECT TRIP GENERATION

The existing Brown Strauss facility currently generates approximately 191 daily vehicle trips, including 22 vehicle trips during the AM peak hour and 10 vehicle trips during the PM peak hour. The existing Brown Strauss facility currently generates approximately 343 daily PCE trips, including 43 PCE trips during the AM peak hour and 16 PCE trips during the PM peak hour.

The existing Brown Strauss Steel operation located at 14970 Jurupa Avenue in the City of Fontana will be closed with operations moved to this City of Banning location. The City of Fontana location is 23.0-acres which is larger than the 14.92-acre project site. This traffic impact analysis uses the trip generation for the 23-acre site without adjustment for the proposed 14.92-acre site. This will provide for a conservative analysis while conforming with the intent that the project is moving operations and operations will remain similarly to existing status, even if the new location has a smaller square footage.

### LEVELS OF SERVICE/OPERATIONAL ANALYSIS FINDINGS (NON-CEQA)

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year Conditions With Project (2025), except for the following study intersection that is forecast to continue operating at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Opening Year Conditions With Project (2025).

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Cumulative Conditions With Project (2025), except for the following study intersection that is forecast to operate at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Cumulative Conditions With Project (2025).

### GENERAL PLAN AMENDMENT ANALYSIS

Since maximum potential buildout of APN 540-180-022 is forecast to generate fewer trips with the proposed Industrial (I) land use designation compared to the existing General Commercial (GC) land use designation, the proposed General Plan Amendment would not exceed impacts associated with buildout of the current General Plan.

## SITE ACCESS & CIRCULATION

It is recommended that the entrance gate at the Project West Driveway is either moved north into the project site to allow for at least 100 feet of queuing capacity from Lincoln Street or always remain open during operating hours so that trucks do not need to wait for the gate to open.

Based on the relatively low turning movement volumes generated by the project, separation of passenger car and truck accesses, and separation of inbound and outbound trucks, the proposed project driveways are expected to function adequately.

# APPENDICES

Appendix A Glossary
Appendix B Scoping Agreement
Appendix C Volume Count Worksheets
Appendix D Level of Service Worksheets
Appendix E Existing Facility Trip Generation Worksheets
Appendix F Project Site Plan
Appendix G Access Gate Queuing Worksheet

# APPENDIX A

# GLOSSARY

## ACRONYMS

| | |
|---|---|
| **AC** | Acres |
| **ADT** | Average Daily Traffic |
| **Caltrans** | California Department of Transportation |
| **DU** | Dwelling Unit |
| **ICU** | Intersection Capacity Utilization |
| **GFA** | Gross Floor Area |
| **LOS** | Level of Service |
| **PCE** | Passenger Car Equivalent |
| **SP** | Service Population |
| **TSF** | Thousand Square Feet |
| **V/C** | Volume/Capacity |
| **VMT** | Vehicle Miles Traveled |

## TERMS

**ACTUATED SIGNAL CONTROL**: A type of traffic signal control in which display of each phase depends on whether the corresponding phase detector has registered a service call or the phase is on recall.

**ACTUATION**: Detection of a roadway user that is forwarded to the signal controller.

**AVERAGE DAILY TRAFFIC**: The average 24-hour volume for a stated period divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.

**BANDWIDTH:** The number of seconds of green time available for through traffic in a signal progression.

**BOTTLENECK**: A point of constriction along a roadway that limits the amount of traffic that can proceed downstream from its location.

**CALL**: An indication within a signal controller that a particular phase is waiting for service, either through actuation from a roadway user or phase recall.

**CAPACITY**: The maximum number of vehicles that can be reasonably expected to pass through a roadway facility during a specified period.

**CHANNELIZATION:** The separation of conflicting traffic movements by use of pavement markings, raised curbs, or other suitable means to facilitate free flow movement.

**CLEARANCE INTERVAL**: Equal to the yellow plus all-red time, if any, when a traffic signal changes between phases (i.e., the amount of time between the end of a green light from one movement to the beginning of a green light for the next).

**COORDINATED SIGNAL CONTROL**: A type of traffic signal control in which non-coordinated phases associated with minor movements are constrained such that the coordinated phases are served at a specific time during the signal cycle, thus maintaining the efficient progression of traffic flow along the major roadway.

**CONTROL DELAY**: The portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign). It includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay.

**CORDON**: An imaginary boundary line around or across a study area across which vehicles, persons, or other information can be collected for survey and analytical purposes.

**CORNER SIGHT DISTANCE**: The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic traveling at a given speed to radically alter their speed or trajectory.

**CYCLE**: A complete sequence of signal indications for all phases.

**CYCLE LENGTH**: The total time for a traffic signal to complete one full cycle.

**DAILY CAPACITY**: A theoretical value representing the daily traffic volume that will typically result in a peak hour volume equal to the capacity of the roadway.

**DELAY:** The total additional travel time experienced by a roadway user (driver, passenger, bicyclist, or pedestrian) beyond that required to travel at a desired speed.

**DENSITY**: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

**DETECTOR:** A device used to count or determine the presence of a roadway user.

**DESIGN SPEED**: A speed used for purposes of designing horizontal and vertical alignments of a highway.

**DIRECTIONAL SPLIT**: The percent of two-way traffic traveling in a specified direction.

**DIVERSION:** The rerouting of traffic from a normal path of travel between two points, such as to avoid congestion or perform a secondary trip.

**FREE FLOW**: Traffic flow that is unaffected by a traffic control and/or or upstream or downstream conditions.

**GAP:** Time or distance between two vehicles measured from rear bumper of the front vehicle to front bumper of the second vehicle.

**GAP ACCEPTANCE:** The method by which a driver accepts an available gap in traffic to enter or cross the road.

**HEADWAY:** Time or distance between two successive vehicles measured from same point on both vehicles (i.e., front bumper to front bumper).

**LEVEL OF SERVICE**: A grading scale of quantitative performance measures representing the quality of service of a transportation facility or service from an average traveler's perspective.

**LOOP DETECTOR**: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

**MULTI-MODAL**: More than one mode, such as automobile, transit, bicycle, and pedestrian.

**OFFSET**: The time interval between the beginning of a traffic signal cycle at one intersection and the beginning of signal cycle an adjacent intersection.

**PLATOON:** A set of vehicles traveling at similar speed and moving as a general group with clear separation between other vehicles ahead and behind.

**PASSENGER CAR EQUIVALENT**: A metric used to assess the impact of larger vehicles, such as trucks, recreational vehicles, and buses, by converting the traffic volume of larger vehicles to an equivalent number of passenger cars.

**PEDESTRIAN CLEARANCE INTERVAL**: Also known as the "Flashing Don't Walk" interval, it signals the end of pedestrian entry into the crosswalk following the "Walk" indication and provides time for pedestrians who have already entered the crosswalk to finishing crossing.

**PEAK HOUR**: The hour within a day in which the maximum volume occurs.

**PEAK HOUR FACTOR**: The peak hour volume divided by the four times the peak 15-minute flow rate. This

**PHASE**: In traffic signals, the green, yellow, and red clearance intervals assigned to a specified traffic movement.

**PRETIMED SIGNAL**: A traffic signal operation in which the cycle length, phasing sequence, and phasing times are predetermined and fixed, regardless of actual demand for any given traffic movement. Also known as a fixed time signal.

**PROGRESSION**: The coordinated movement of vehicles through signalized intersections along a corridor.

**QUEUE**: The number of vehicles waiting at a service area such as a traffic signal, stop sign, or access gate.

**QUEUE LENGTH**: The length of vehicle queue, typically expressed in feet, waiting at a service area such as a traffic signal, stop sign, or access gate.

**RECALL**: A signal phasing operation in which a specified phase places a call to the signal controller each time a conflicting phase is served, thus ensuring the specified phase will be serviced again.

**SEMI-ACTUATED CONTROL**: A type of traffic signal control in which only the minor movements are provided detection.

**SIGHT DISTANCE**: The continuous length of roadway visible to a driver or roadway user.

**STACKING DISTANCE**: The length of area available behind a service area, such as a traffic signal or gate, for vehicle queuing to occur.

**STOPPING SIGHT DISTANCE**: The minimum distance required by the driver of a vehicle traveling at a given speed to bring the vehicle to a stop after an object on the road becomes visible, including reaction and response time.

**TRIP OR TRIP END:** The one-directional movement of a person or vehicle. Every trip has an origin and a destination at its respective ends (i.e., trip ends). In terms of site trip generation, the same vehicle entering and exiting a site generates two trips: one inbound trip and one outbound trip.

**TRIP GENERATION RATE:** The rate at which a land use generates trips per the specified land use variable, such per dwelling unit or per thousand square feet.

**TRUCK:** A heavy motor vehicle generally used for transporting goods.

**VEHICLE MILES TRAVELED**: A measure of the amount and distance of automobile travel essentially calculated as the sum of each trip times the trip length.

# APPENDIX B

# SCOPING AGREEMENT

# TIA SCOPING FORM

This completed Scoping Form must be submitted to City staff for review before initiation of the TIA:

## Project Identification:

| | |
|---|---|
| Case Number: | |
| Related Cases: | |
| SP No. | |
| EIR No. | |
| GPA No. | |
| CZ No. | |
| Project Name: | Brown Strauss Banning Industrial |
| Project Opening Year: | 2025 |
| Project Description: | 14.92-acre steel distribution use |

| | Consultant | Developer |
|---|---|---|
| Name: | Ganddini Group, Inc. | Sagecrest Planning+Environmenta |
| Address: | 555 Parkcenter Dr., Suite 225<br>Santa Ana, CA 92705 | 27128 Paseo Espada, Suite 1524<br>San Juan Capistrano, CA 92675 |
| Telephone: | 714-795-3100 x 104 | 352-262-6323 |
| Fax/Email: | bryan@ganddini.com | kribuffo@sagecrestplanning.com |

## Trip Generation Information:

Source of Trip Generation Data: Traffic counts at similar facility

| Current General Plan Land Use | Proposed General Plan Land Use |
|---|---|
| Industrial/General Commercial | Industrial |
| **Current Zoning** | **Proposed Zoning** |
| Industrial/General Commercial | Industrial |

| | Existing Trip Generation | | | Proposed Trip Generation | | |
|---|---|---|---|---|---|---|
| | In | Out | Total | In | Out | Total |
| AM Peak Hour: | 0 | 0 | 0 | 25 | 18 | 43 |
| PM Peak Hour: | 0 | 0 | 0 | 9 | 7 | 16 |

Trip Internalization: __ Yes ✓ No _____ Percentage (if Yes)

Pass-By Allowance: __ Yes ✓ No _____ Percentage (if Yes)

Diverted Trips Allowance: __ Yes ✓ No _____ Percentage (if Yes)

**Potential Screening Checks:**

Is your project screened from a Local Transportation Analysis (LTA), pursuant to the criteria in Section 2.1 of the guidelines?

✓ Yes __ No

LTA Screening Justification:

~~Project generates less than 50 peak hour trips. However, the project is undertaking a General Plan Amendment.~~

Is your project screened from a VMT analysis, as per the criteria in Section 2.2 of the guidelines?

✓ Yes __ No

VMT Screening Justification:

~~A separate VMT Screening Assessment has been conducted for the project. The project satisfies the City-established screening criteria for projects forecast to generate fewer than 500 net daily trips.~~

### Level of Service Analysis Scoping:

Project Trip Distribution Percentages (Attach exhibit for detailed distribution):

| North | South | East | West |
|---|---|---|---|
| 0% | 0% | 40% | 60% |

- Attach list of Approved and Pending Projects that need to be considered (provided by City staff and adjacent jurisdictions)
- Attach list of study intersections/roadway segments
- Attach site plan
- Note other specific items to be addressed:
  a. Site access
  b. On-site circulation
  c. Parking
  d. Consistency with Plans supporting Bikes/Peds/Transit
  e. Other Included in attached MOU
- Date of Traffic Counts March 2023
- Attach proposed analysis scenarios (years plus proposed forecasting approach)
- Attach proposed phasing approach (if the project is phased)

### Vehicle Miles Traveled Analysis Scoping:

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used: _____
- Attach City of Banning VMT Screening Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

Any other specific issues to be addressed in the LTA or VMT analysis, apart from those stated in the Guidelines?

See attached MOU

# MEMORANDUM OF UNDERSTANDING

**TO:** CITY OF BANNING

**FROM:** Bryan Crawford, Senior Transportation Planner | GANDDINI GROUP, INC.

**DATE:** June 28, 2023

**SUBJECT:** Brown Strauss Banning Industrial Project Traffic Impact Analysis Scoping

## INTRODUCTION

The purpose of this traffic study scoping document is to outline the proposed traffic analysis parameters and assumptions for review/concurrence by City of Banning staff.

## PROJECT DESCRIPTION

Figure 1 shows the project location map. The project site is located at 1219 and 1431 West Lincoln Street (APNs 540-180-020, -022, and -026) in the City of Banning, as exhibited in Figure 2.

The site plan is shown in Appendix A. The 14.92-acre project site is proposed to be developed with a steel distribution use. The total development proposal includes a 45,000 square foot warehouse, a 3,000 square foot office, two 500 square foot enclosed saw sheds, and an outdoor storage yard. The proposed project is anticipated to be constructed and fully operational by year 2025. The project also involves a General Plan Amendment/Zone Change from Industrial (I) and General Commercial (CC) to Industrial (I).

The existing Brown Strauss Steel operation located at 14970 Jurupa Avenue in the City of Fontana will be closed with operations moved to this City of Banning location.

The project site is proposed to provide four access driveways on West Lincoln Street. The project west driveway will be a truck entrance only driveway. The project central-west driveway will be a full access automobile only driveway. The project central-east and east driveways will be truck exit only driveways.

## PROJECT TRIP GENERATION

To determine the existing trip generation at the project site, 24-hour inbound/outbound trip counts were taken at the project driveway for the existing Brown Strauss Steel location at 14970 Jurupa Avenue in the City of Fontana in 15-minute increments separating passenger cars and trucks by axle. These traffic counts were conducted on Tuesday, March 7, 2023, Wednesday, March 8, 2023, and Thursday, March 9, 2023. Count worksheets are included in Attachment A.

Table 1 shows the existing Brown Strauss facility inbound trips generated for each of the three days with the average of the three days of counts calculated.

Table 2 shows the existing Brown Strauss facility outbound trips generated for each of the three days with the average of the three days of counts calculated.

Table 3 shows the existing trips generated for the existing Brown Strauss facility using the average trips generated for AM peak hour, PM peak hour and Daily. The trips are separated between passenger cars and trucks by axle.

As shown in Table 3, the existing Brown Strauss facility currently generates approximately 191 daily vehicle trips, including 22 vehicle trips during the AM peak hour and 10 vehicle trips during the PM peak hour.

Truck Trips

In accordance with industry practice and City requirements for truck-oriented uses, the existing Brown Strauss facility trip generation was also calculated in terms of Passenger Car Equivalent (PCE) trips. Truck trips were converted to PCE trips based on the following factors recommended by the City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis (October 2021)*: 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with four or more axles.

As also shown in Table 3, the existing Brown Strauss facility currently generates approximately 343 daily PCE trips, including 43 PCE trips during the AM peak hour and 16 PCE trips during the PM peak hour.

Table 3 also shows the trips generated per acre for the 23.0-acre existing FedEx facility for informational purposes only.

The existing Brown Strauss Steel operation located at 14970 Jurupa Avenue in the City of Fontana will be closed with operations moved to this City of Banning location. The City of Fontana location is 23.0-acres which is larger than the 14.92-acre project site. Table 4 shows the project trip generation for the proposed project if the project trip generation were devised using trips generated by acre. This has been included for informational purposes only as the traffic impact analysis will use the greater trip generation when comparing site to site versus trip generation by acre. This will provide for a conservative analysis while conforming with the intent that the project is moving operations and operations will remain similarly to existing status, even if the new location has a smaller square footage.

## PROJECT TRIP DISTRIBUTION

Figure 3 to Figure 5 illustrate the forecast outbound and inbound directional distribution patterns of project-generated truck trips and passenger car trips.

## STUDY AREA

Based on the City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis (October 2021)* guidelines, intersections identified for analysis typically include signalized intersections at which a project is forecast to contribute 50 or more trips during the AM or PM peak hours. The study area is proposed to consist of the following six (6) study intersections, even if the project may not contribute 50 or more trips during either peak hour.

Study Intersections (Figure 1)

1. 22nd Street (NS) at Lincoln Street (EW)
2. Project West Driveway (NS) at Lincoln Street (EW)
3. Project Central-West Driveway (NS) at Lincoln Street (EW)
4. Project Central-East Driveway (NS) at Lincoln Street (EW)
5. Project East Driveway/12th Street (NS) at Lincoln Street (EW)
6. 8th Street (NS) at Lincoln Street (EW)

## TRAFFIC COUNTS

New intersection turning movement counts separating cars and trucks by axle will be collected at the study intersections during the AM peak period (7:00 AM – 9:00 AM) and PM peak period (4:00 PM – 6:00 PM) on a typical weekday (Tuesday, Wednesday, or Thursday).

## ANALYSIS SCENARIOS

The traffic study shall evaluate the following analysis scenarios for weekday AM and PM peak hour conditions:

- Existing Conditions [2023]
- Opening Year Conditions [2025]
- Opening Year Conditions With Project [2025]
- Cumulative Conditions [2025]
- Cumulative Conditions With Project [2025]
- Horizon Year Conditions [2045]
- Horizon Year Conditions With Project [2045]

## ANALYSIS METHODOLOGY

To assess the performance of an intersection, the City of Banning uses the intersection delay method based on procedures contained in the Highway Capacity Manual (Transportation Research Board, 6th Edition). The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service (LOS). Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to Level of Service based on the following thresholds:

| Level of Service | Intersection Control Delay (Seconds / Vehicle) | |
|---|---|---|
| | Signalized Intersection | Unsignalized Intersection |
| A | ≤ 10.0 | ≤ 10.0 |
| B | > 10.0 to ≤ 20.0 | > 10.0 to ≤ 15.0 |
| C | > 20.0 to ≤ 35.0 | > 15.0 to ≤ 25.0 |
| D | > 35.0 to ≤ 55.0 | > 25.0 to ≤ 35.0 |
| E | > 55.0 to ≤ 80.0 | > 35.0 to ≤ 50.0 |
| F | > 80.0 | > 50.0 |

Source: Transportation Research Board, Highway Capacity Manual (6th Edition).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, Level of Service is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), Level of Service is determined by the average control delay for the worst individual movement (or movements sharing a single lane).

Intersection Level of Service analysis shall be performed using the Vistro software.

## PERFORMANCE STANDARDS

The City of Banning has established LOS D as the minimum acceptable Level of Service along all City maintained roads (including intersections).

## OPERATIONAL THRESHOLDS

For study intersections within the City of Banning jurisdiction, a traffic impact occurs if:

a) The addition of project traffic causes the intersection LOS to degrade from acceptable LOS D or better to an unacceptable LOS E or F.

b) The addition of project traffic causes the peak hour delay to increase as follows:

- LOS A/B by 10 seconds;
- LOS C by 8 seconds;
- LOS D by 5 seconds;
- LOS E by 2 seconds;
- LOS F by 1 second

If either of the above conditions is satisfied, improvements should be identified that achieve the following:

- Improving traffic operations to LOS D for case a, above.
- Improving traffic operations to offset the increase in delay for case b, above.

If a project is forecast to cause an operational traffic impact, feasible improvements that will reduce the impact to an acceptable LOS are identified. Improvements can be in many forms, including the addition of lanes, traffic control modification, or demand management measures.

## FORECASTING METHODOLOGY

Ambient Growth Rate

To account for area-wide ambient growth, the Opening Year Conditions and Cumulative Conditions will include a 2% annual growth for 2 years (total growth factor = 1.0404) over the 2023 base volumes. City staff shall confirm that this growth rate is applicable and refine as necessary.

Other Cumulative Projects

A list of pending and approved cumulative development projects will be obtained from City of Banning staff. This list will be narrowed down to include projects within a 1.5-mile radius of the project site.

Trip forecasts for other development projects within the project study area will be determined based on the Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021 and will be added to existing roadway volumes for the Cumulative Conditions scenarios.

## GENERAL PLAN AMENDMENT ANALYSIS

The project is composed of the following three parcels:

- 540-190-020: 2.45 acres: Industrial (I) zoned; no change proposed
- 540-180-026: 8.17 acres; Industrial (I) zoned; no change proposed
- 540-180-022: 4.30 acres; General Commercial (GC) zoned; proposed rezone to Industrial (I)

Table 5 shows a project trip generation comparison for maximum buildout potential between the existing zoning of General Commercial (GC) and the proposed zoning of Industrial (I).

Table 5 shows the General Plan land use trip generation based upon trip generation rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021). Based on review of the ITE land use description, trip generation rates for shopping plaza (40k-159k) (Land Use Code 821) and general light industrial (Land Use Code 110) were determined to adequately represent the existing and proposed land uses and were selected for use in this analysis. The project trip generation forecast is determined by multiplying the trip generation rates by the land use quantities.

As shown in Table 5, maximum buildout under the existing General Commercial (GC) land use is proposed to generate approximately 6,195 daily vehicle trips, including 231 vehicle trips during the AM peak hour and 592 vehicle trips during the PM peak hour. Maximum buildout under the proposed Industrial (I) land use is proposed to generate approximately 547 daily vehicle trips, including 83 vehicle trips during the AM peak hour and 73 vehicle trips during the PM peak hour. The existing General Plan land use compared to the proposed land use is proposed to generate approximately 5,648 less daily vehicle trips, including 148 less vehicle trips during the AM peak hour and 519 less vehicle trips during the PM peak hour.

Thus, the proposed rezoning of 540-180-022 from General Commercial (GC) to Industrial (I) is anticipated to have a reduction in trip generation for the AM peak hour, PM peak hour, and Daily, and Horizon Year impacts would not be increased beyond what is anticipated in the approved City of Banning General Plan.

## VEHICLES MILES TRAVELED (VMT) ANALYSIS

A separate VMT screening assessment will be performed for the project.

## TRUCK TURNING TEMPLATES

Truck turning templates will be provided overlayed on the project site plan to confirm ingress and egress at the project driveways.

## ON-SITE CIRCULATION ANALYSIS

All project driveways will be evaluated based on lane configurations, traffic control, and potential turn restrictions.

The analysis will include a left turn storage analysis, access control analysis, and an analysis of spacing between driveways to determine whether the number of driveways needs to be consolidated. In addition, a queuing analysis at the gates will be performed to confirm whether sufficient storage is provided on-site to prevent spillback onto adjacent roadways. This will be performed at each gated ingress point based on the Crommelin methodology.

## CONCLUSION

We appreciate the opportunity to provide this scoping document for your review. Should you have any questions or comments regarding the proposed scope, please contact Bryan Crawford at (714) 795-3100 x 104 or bryan@ganddini.com.

## Table 1 (1 of 3)
## Survey Site Inbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 12:00 AM - 12:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:15 AM - 12:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:30 AM - 12:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:45 AM - 1:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 AM - 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 AM - 1:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 AM - 1:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 AM - 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 AM - 2:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 AM - 2:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 AM - 2:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 AM - 3:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 AM - 3:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 AM - 3:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 AM - 3:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 AM - 4:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 AM - 4:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 AM - 4:30 AM | 3 | 0 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 5 | 3 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 4 |
| 4:30 AM - 4:45 AM | 11 | 0 | 0 | 0 | 11 | 10 | 0 | 0 | 0 | 10 | 8 | 0 | 0 | 1 | 9 | 10 | 0 | 0 | 1 | 11 |
| 4:45 AM - 5:00 AM | 6 | 0 | 0 | 2 | 8 | 5 | 0 | 0 | 2 | 7 | 6 | 0 | 0 | 1 | 7 | 6 | 0 | 0 | 2 | 8 |
| 5:00 AM - 5:15 AM | 1 | 0 | 0 | 4 | 5 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 3 | 4 |
| 5:15 AM - 5:30 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 5:30 AM - 5:45 AM | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| 5:45 AM - 6:00 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| 6:00 AM - 6:15 AM | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 2 | 3 |
| 6:15 AM - 6:30 AM | 1 | 1 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 6:30 AM - 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:45 AM - 7:00 AM | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 3 | 0 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 4 |
| 7:00 AM - 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:15 AM - 7:30 AM | 0 | 0 | 0 | 2 | 2 | 0 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 |
| 7:30 AM - 7:45 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 7:45 AM - 8:00 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 8:00 AM - 8:15 AM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 1 | 1 | 0 | 1 | 3 |
| 8:15 AM - 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 8:30 AM - 8:45 AM | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 6 | 2 | 0 | 1 | 1 | 4 |

## Table 1 (2 of 3)
## Survey Site Inbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 8:45 AM - 9:00 AM | 0 | 1 | 0 | 3 | 4 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 4 |
| 9:00 AM - 9:15 AM | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 9:15 AM - 9:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 9:30 AM - 9:45 AM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 3 |
| 9:45 AM - 10:00 AM | 2 | 1 | 0 | 0 | 3 | 2 | 0 | 0 | 2 | 4 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 4 |
| 10:00 AM - 10:15 AM | 2 | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 3 |
| 10:15 AM - 10:30 AM | 1 | 1 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 3 |
| 10:30 AM - 10:45 AM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 10:45 AM - 11:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 11:00 AM - 11:15 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 11:15 AM - 11:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 AM - 11:45 AM | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 4 | 1 | 0 | 0 | 1 | 2 | 2 | 0 | 0 | 2 | 4 |
| 11:45 AM - 12:00 PM | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 5 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 12:00 PM - 12:15 PM | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 12:15 PM - 12:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 1 | 2 |
| 12:30 PM - 12:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 12:45 PM - 1:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 |
| 1:00 PM - 1:15 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 1:15 PM - 1:30 PM | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 1:30 PM - 1:45 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 2 |
| 1:45 PM - 2:00 PM | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 1 | 4 |
| 2:00 PM - 2:15 PM | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 2:15 PM - 2:30 PM | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 3 |
| 2:30 PM - 2:45 PM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 0 | 3 |
| 2:45 PM - 3:00 PM | 1 | 1 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 3 |
| 3:00 PM - 3:15 PM | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 3:15 PM - 3:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 PM - 3:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 3:45 PM - 4:00 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 4:00 PM - 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM - 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM - 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 4:45 PM - 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 5:00 PM - 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM - 5:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 5:30 PM - 5:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |

## Table 1 (3 of 3)
## Survey Site Inbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 5:45 PM - 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:00 PM - 6:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:15 PM - 6:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:30 PM - 6:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:45 PM - 7:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 PM - 7:15 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 7:15 PM - 7:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 PM - 7:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 PM - 8:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 PM - 8:15 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 8:15 PM - 8:30 PM | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 8:30 PM - 8:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 PM - 9:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 PM - 9:15 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 9:15 PM - 9:30 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 9:30 PM - 9:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 PM - 10:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 PM - 10:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 PM - 10:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 PM - 10:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 PM - 11:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 PM - 11:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 PM - 11:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 PM - 11:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 PM - 12:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Daily | 55 | 7 | 1 | 32 | 95 | 45 | 10 | 2 | 41 | 98 | 43 | 7 | 3 | 28 | 81 | 48 | 8 | 2 | 34 | 92 |
| AM Peak Hour* | 8:00 AM - 9:00 AM | | | | | | | | | | | | | | | 3 | 2 | 2 | 5 | 12 |
| PM Peak Hour* | 4:30 PM - 5:30 PM | | | | | | | | | | | | | | | 0 | 2 | 0 | 2 | 4 |

Notes:

* Peak hours shown for peak of adjacent street traffic (one hour between 7-9 AM and one hour between 4-6 PM) based on sum of inbound plus outbound trips.

## Table 2 (1 of 3)
## Survey Site Outbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 12:00 AM - 12:15 AM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 12:15 AM - 12:30 AM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 |
| 12:30 AM - 12:45 AM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 12:45 AM - 1:00 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1:00 AM - 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 AM - 1:30 AM | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 1:30 AM - 1:45 AM | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1:45 AM - 2:00 AM | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 2:00 AM - 2:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 AM - 2:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 AM - 2:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 AM - 3:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 AM - 3:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 AM - 3:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 AM - 3:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 AM - 4:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 AM - 4:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 AM - 4:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 AM - 4:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 4:45 AM - 5:00 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 5:00 AM - 5:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 5:15 AM - 5:30 AM | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| 5:30 AM - 5:45 AM | 0 | 0 | 1 | 4 | 5 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 1 | 3 | 4 |
| 5:45 AM - 6:00 AM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 6:00 AM - 6:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:15 AM - 6:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 6:30 AM - 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:45 AM - 7:00 AM | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 0 | 0 | 1 | 2 | 3 |
| 7:00 AM - 7:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 7:15 AM - 7:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 4 | 4 | 1 | 1 | 0 | 2 | 4 |
| 7:30 AM - 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 7:45 AM - 8:00 AM | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 8:00 AM - 8:15 AM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 |
| 8:15 AM - 8:30 AM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 3 |
| 8:30 AM - 8:45 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |

## Table 2 (2 of 3)
## Survey Site Outbound Trips Generated Summary

| | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| 8:45 AM - 9:00 AM | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 3 |
| 9:00 AM - 9:15 AM | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 0 | 1 | 0 | 2 | 3 | 1 | 1 | 1 | 1 | 4 |
| 9:15 AM - 9:30 AM | 1 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 1 | 3 |
| 9:30 AM - 9:45 AM | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 3 |
| 9:45 AM - 10:00 AM | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 3 |
| 10:00 AM - 10:15 AM | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 2 | 5 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 4 |
| 10:15 AM - 10:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 10:30 AM - 10:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 2 |
| 10:45 AM - 11:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 AM - 11:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 11:15 AM - 11:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 11:30 AM - 11:45 AM | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 3 |
| 11:45 AM - 12:00 PM | 1 | 0 | 0 | 1 | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 12:00 PM - 12:15 PM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 12:15 PM - 12:30 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 4 | 2 | 0 | 1 | 0 | 3 | 1 | 1 | 1 | 2 | 5 |
| 12:30 PM - 12:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 2 |
| 12:45 PM - 1:00 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 1:00 PM - 1:15 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 2 |
| 1:15 PM - 1:30 PM | 0 | 0 | 0 | 2 | 2 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 3 |
| 1:30 PM - 1:45 PM | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 10 | 11 | 0 | 0 | 0 | 11 | 7 | 0 | 0 | 0 | 7 |
| 1:45 PM - 2:00 PM | 0 | 0 | 0 | 1 | 1 | 6 | 0 | 0 | 1 | 7 | 2 | 1 | 0 | 1 | 4 | 3 | 1 | 0 | 1 | 5 |
| 2:00 PM - 2:15 PM | 15 | 0 | 0 | 1 | 16 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 6 | 0 | 1 | 1 | 8 |
| 2:15 PM - 2:30 PM | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 2:30 PM - 2:45 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:45 PM - 3:00 PM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 3:00 PM - 3:15 PM | 2 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 3:15 PM - 3:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 3:30 PM - 3:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 PM - 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 4:00 PM - 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM - 4:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 4:30 PM - 4:45 PM | 2 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 |
| 4:45 PM - 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 2 |
| 5:00 PM - 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM - 5:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 5:30 PM - 5:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |

## Table 2 (3 of 3)
## Survey Site Outbound Trips Generated Summary

| | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| 5:45 PM - 6:00 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 6:00 PM - 6:15 PM | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 |
| 6:15 PM - 6:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:30 PM - 6:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:45 PM - 7:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:00 PM - 7:15 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 7:15 PM - 7:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 7:30 PM - 7:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 7:45 PM - 8:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 8:00 PM - 8:15 PM | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 8:15 PM - 8:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 PM - 8:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 PM - 9:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 9:00 PM - 9:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 PM - 9:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 9:30 PM - 9:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 PM - 10:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 PM - 10:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 PM - 10:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 PM - 10:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 PM - 11:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 PM - 11:15 PM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 |
| 11:15 PM - 11:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 PM - 11:45 PM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 5 | 0 | 0 | 0 | 5 | 3 | 0 | 0 | 0 | 3 |
| 11:45 PM - 12:00 AM | 3 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 3 |
| Daily | 56 | 9 | 1 | 33 | 99 | 44 | 14 | 1 | 41 | 100 | 51 | 9 | 3 | 29 | 92 | 51 | 11 | 2 | 35 | 99 |
| AM Peak Hour* | 8:00 AM - 9:00 AM | | | | | | | | | | | | | | | 4 | 3 | 0 | 3 | 10 |
| PM Peak Hour* | 4:30 PM - 5:30 PM | | | | | | | | | | | | | | | 4 | 2 | 0 | 0 | 6 |

Notes:

* Peak hours shown for peak of adjacent street traffic (one hour between 7-9 AM and one hour between 4-6PM) based on sum of inbound plus outbound trips.

## Table 3
## Project Trips Generated

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 2 | 3 | 5 | 2 | 2 | 4 | 19 |
| Trucks (3-Axle) | | | 2 | 0 | 2 | 0 | 0 | 0 | 4 |
| Trucks (4+-Axle) | | | 5 | 3 | 8 | 2 | 0 | 2 | 69 |
| Subtotal | | | 12 | 10 | 22 | 4 | 6 | 10 | 191 |
| Trips Generated in Passenger Car Equivalents[3] | | | | | | | | | |
| Existing Brown Strauss Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 3 | 5 | 8 | 3 | 3 | 6 | 29 |
| Trucks (3-Axle) | | | 4 | 0 | 4 | 0 | 0 | 0 | 8 |
| Trucks (4+-Axle) | | | 15 | 9 | 24 | 6 | 0 | 6 | 207 |
| Subtotal | | | 25 | 18 | 43 | 9 | 7 | 16 | 343 |

| Trips Generation Rates Per Acre | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 1.0 AC | | | | | | | |
| Passenger Cars | | | 0.13 | 0.17 | 0.30 | 0.00 | 0.17 | 0.17 | 4.30 |
| Trucks (2-Axle) | | | 0.09 | 0.13 | 0.22 | 0.09 | 0.09 | 0.18 | 0.83 |
| Trucks (3-Axle) | | | 0.09 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.17 |
| Trucks (4+-Axle) | | | 0.22 | 0.13 | 0.35 | 0.09 | 0.00 | 0.09 | 3.00 |
| Subtotal | | | 0.52 | 0.43 | 0.95 | 0.17 | 0.26 | 0.43 | 8.30 |

Notes:
1. Traffic counts at project driveway (see Tables 1 and 2).
2. AC = Acres
3. Source: City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021).
   2-Axle = 1.5; 3-Axle = 2.0; 4+-Axle = 3.0

## Table 4
## Project Trips Generated (By Acreage)

| Trips Generation Rates Per Acre | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 1.0 AC | | | | | | | |
| Passenger Cars | | | 0.13 | 0.17 | 0.30 | 0.00 | 0.17 | 0.17 | 4.30 |
| Trucks (2-Axle) | | | 0.09 | 0.13 | 0.22 | 0.09 | 0.09 | 0.18 | 0.83 |
| Trucks (3-Axle) | | | 0.09 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.17 |
| Trucks (4+-Axle) | | | 0.22 | 0.13 | 0.35 | 0.09 | 0.00 | 0.09 | 3.00 |
| Subtotal | | | 0.52 | 0.43 | 0.95 | 0.17 | 0.26 | 0.43 | 8.30 |

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 14.92 AC | | | | | | | |
| Passenger Cars | | | 2 | 3 | 5 | 0 | 3 | 3 | 64 |
| Trucks (2-Axle) | | | 1 | 2 | 3 | 1 | 1 | 2 | 12 |
| Trucks (3-Axle) | | | 1 | 0 | 1 | 0 | 0 | 0 | 3 |
| Trucks (4+-Axle) | | | 3 | 2 | 5 | 1 | 0 | 1 | 45 |
| Subtotal | | | 7 | 7 | 14 | 2 | 4 | 6 | 124 |
| Trips Generated in Passenger Car Equivalents[3] | | | | | | | | | |
| Existing Brown Strauss Facility | Counts | 14.92 AC | | | | | | | |
| Passenger Cars | | | 2 | 3 | 5 | 0 | 3 | 3 | 64 |
| Trucks (2-Axle) | | | 2 | 3 | 5 | 2 | 2 | 4 | 18 |
| Trucks (3-Axle) | | | 2 | 0 | 2 | 0 | 0 | 0 | 6 |
| Trucks (4+-Axle) | | | 9 | 6 | 15 | 3 | 0 | 3 | 135 |
| Subtotal | | | 15 | 12 | 27 | 5 | 5 | 10 | 223 |

Notes:

1. Traffic counts at project driveway (see Tables 1, 2 and 3).
2. AC = Acres
3. Source: City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021).
   2-Axle = 1.5; 3-Axle = 2.0; 4+-Axle = 3.0

## Table 5
## General Plan Amendment Trip Generation Comparison

| Trip Generation Rates | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Unit[2] | % In | % Out | Rate | % In | % Out | Rate | Daily |
| Shopping Plaza (40-150k) | ITE 821 | TSF | 62% | 38% | 3.53 | 48% | 52% | 9.03 | 94.49 |
| General Light Industrial | ITE 110 | TSF | 88% | 12% | 0.74 | 14% | 86% | 0.65 | 4.87 |

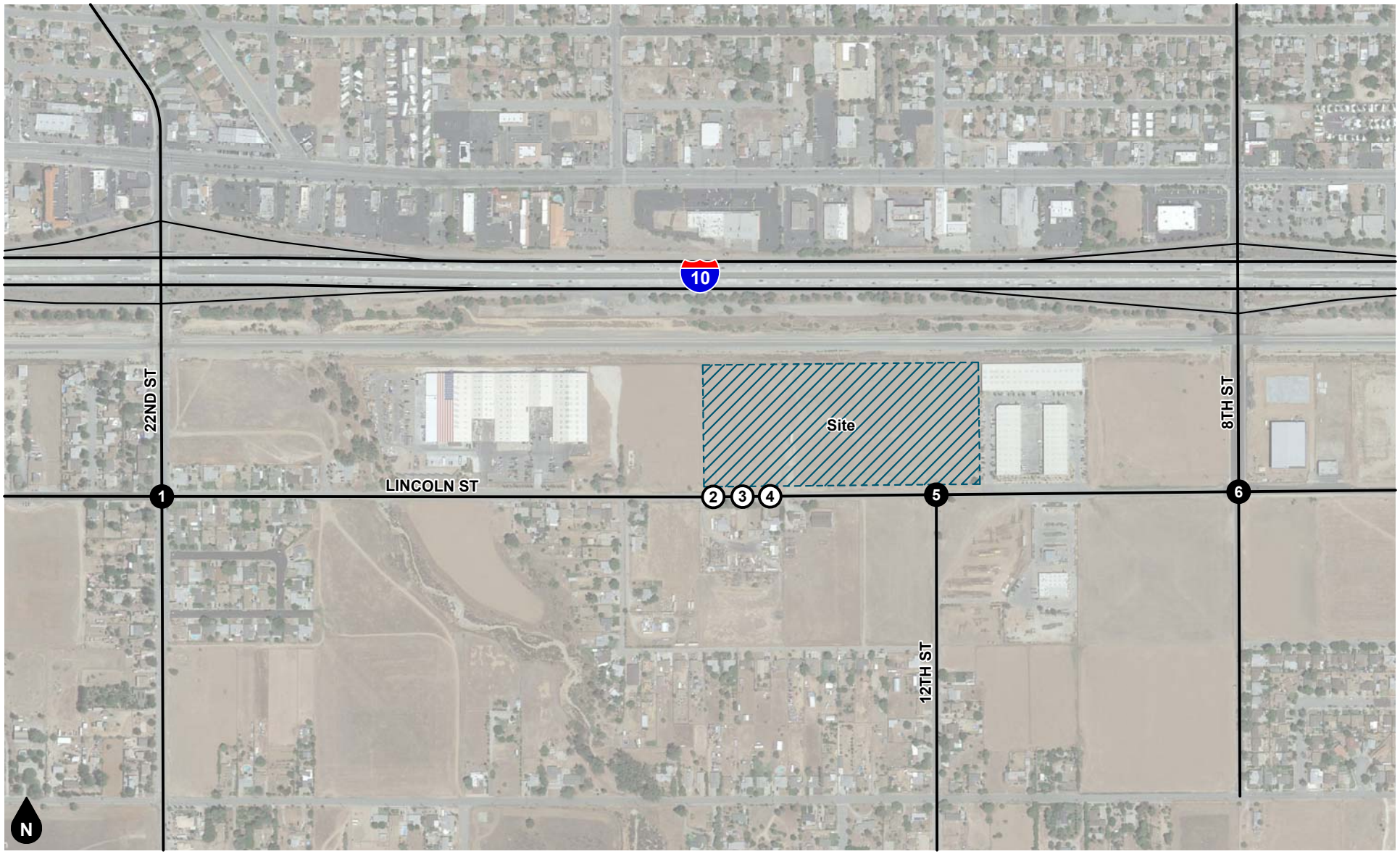
| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Quantity[3] | Unit[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Land Use | | | | | | | | | |
| Shopping Plaza (40-150k) | 65.558 | TSF | 143 | 88 | 231 | 284 | 308 | 592 | 6,195 |
| Proposed Land Use | | | | | | | | | |
| General Light Industrial | 112.385 | TSF | 73 | 10 | 83 | 10 | 63 | 73 | 547 |
| **NET PROJECT TRIPS GENERATED** | | | **-70** | **-78** | **-148** | **-274** | **-245** | **-519** | **-5,648** |

Notes:

(1) ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code

(2) TSF = Thousand Square Feet (Gross Floor Area)

(3) The City of Banning Municipal Code Table 17.12.030 states that General Commercial (GC) has a maximum building coverage of 35% and Industrial (I) has a maximum building coverage of 60%. Parcel 540-180-022 is zoned as General Commercial (GC) and is 4.3 acres (187,308 square feet). This zone at a maximum of 35% General Commercial (GC) = 65.558 square feet and at a maximum of 60% Industrial (I) is 112, 385 square feet.




Legend

(#) Study Intersection

(#) Project Driveway

**Figure 1**
**Project Location Map**

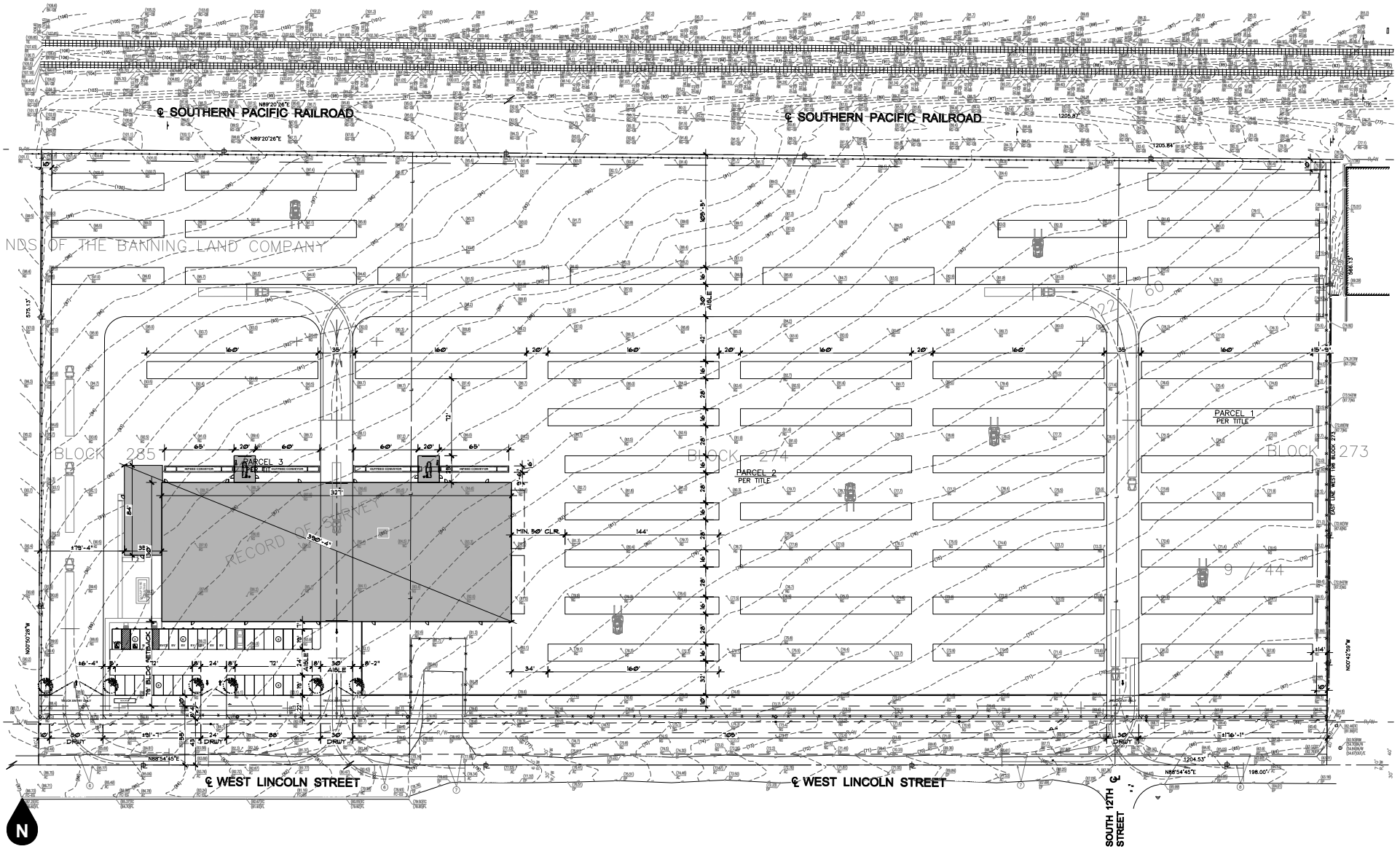



**Figure 2**
**Site Plan**

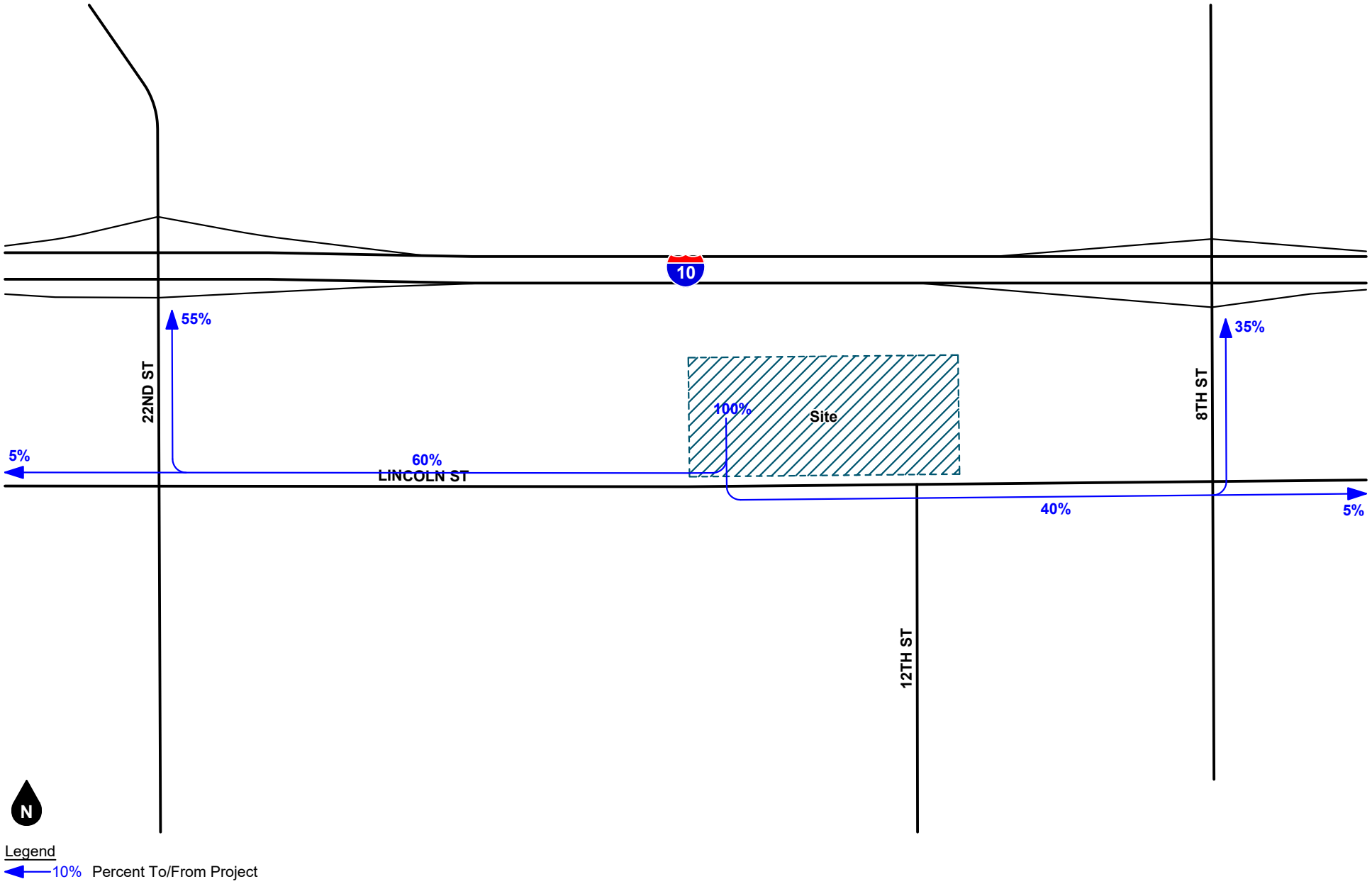



**Figure 3**
**Project Trip Distribution - Passenger Cars**

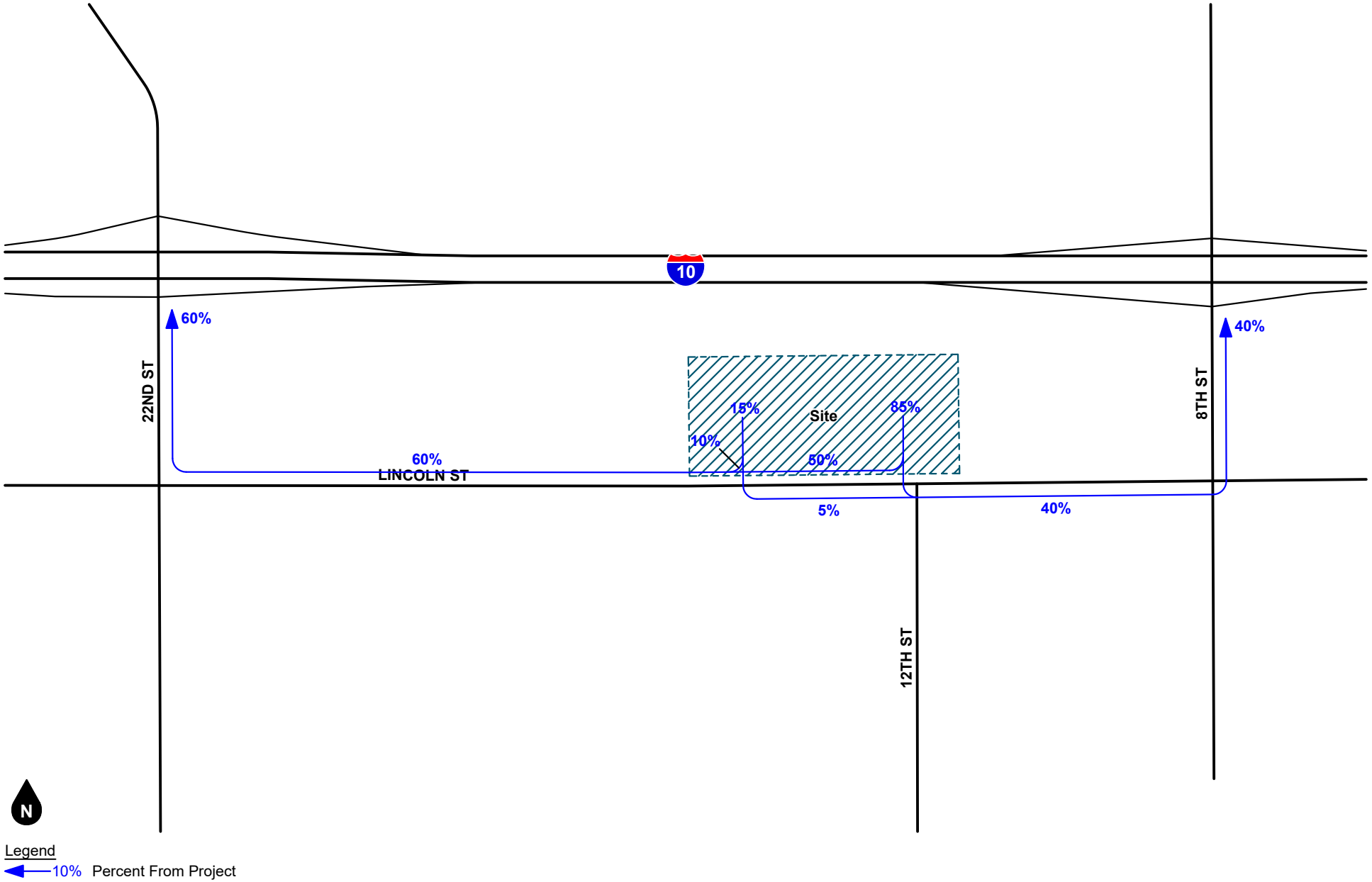



**Figure 4**
**Project Outbound Trip Distribution - Trucks**

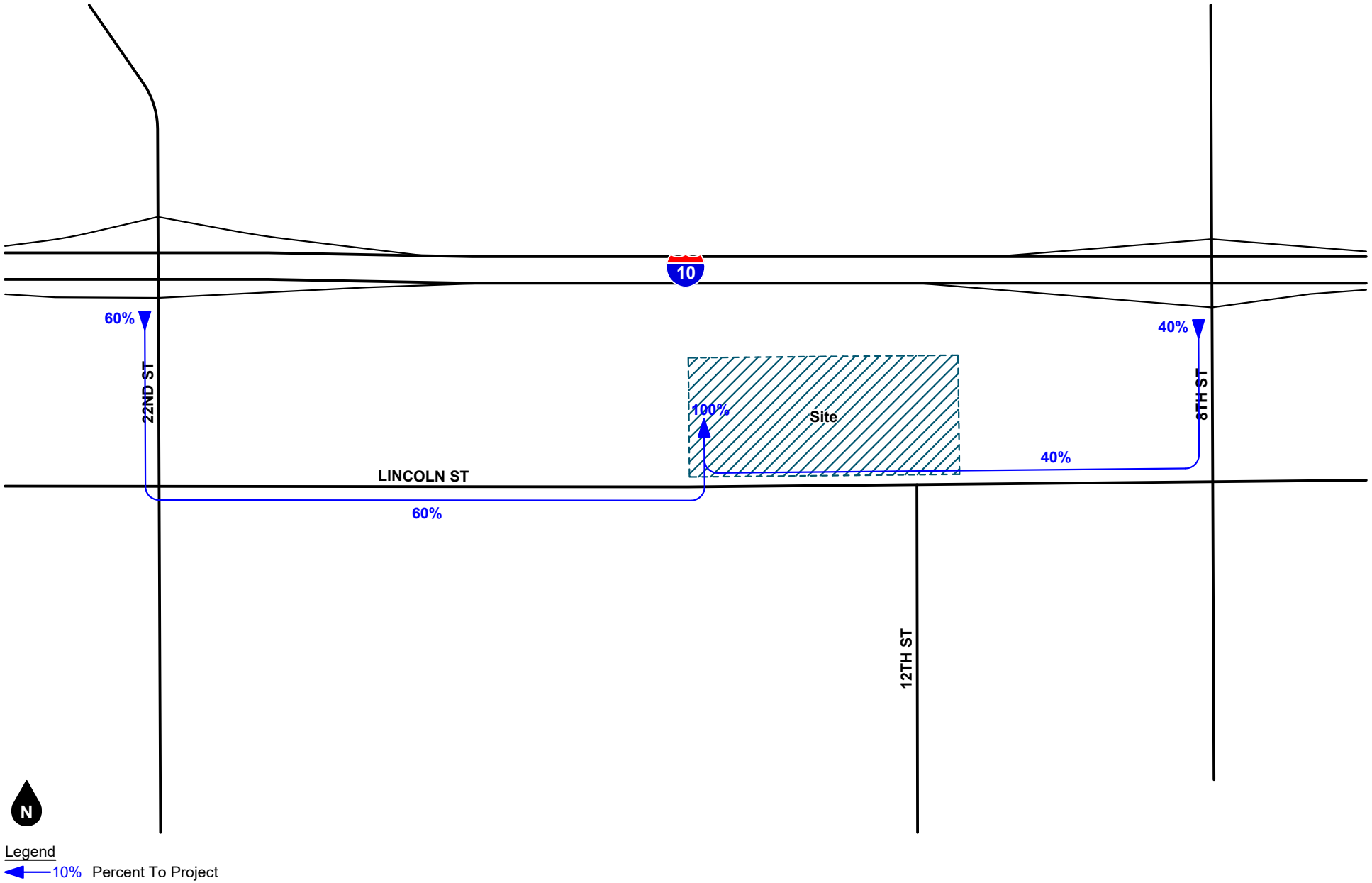
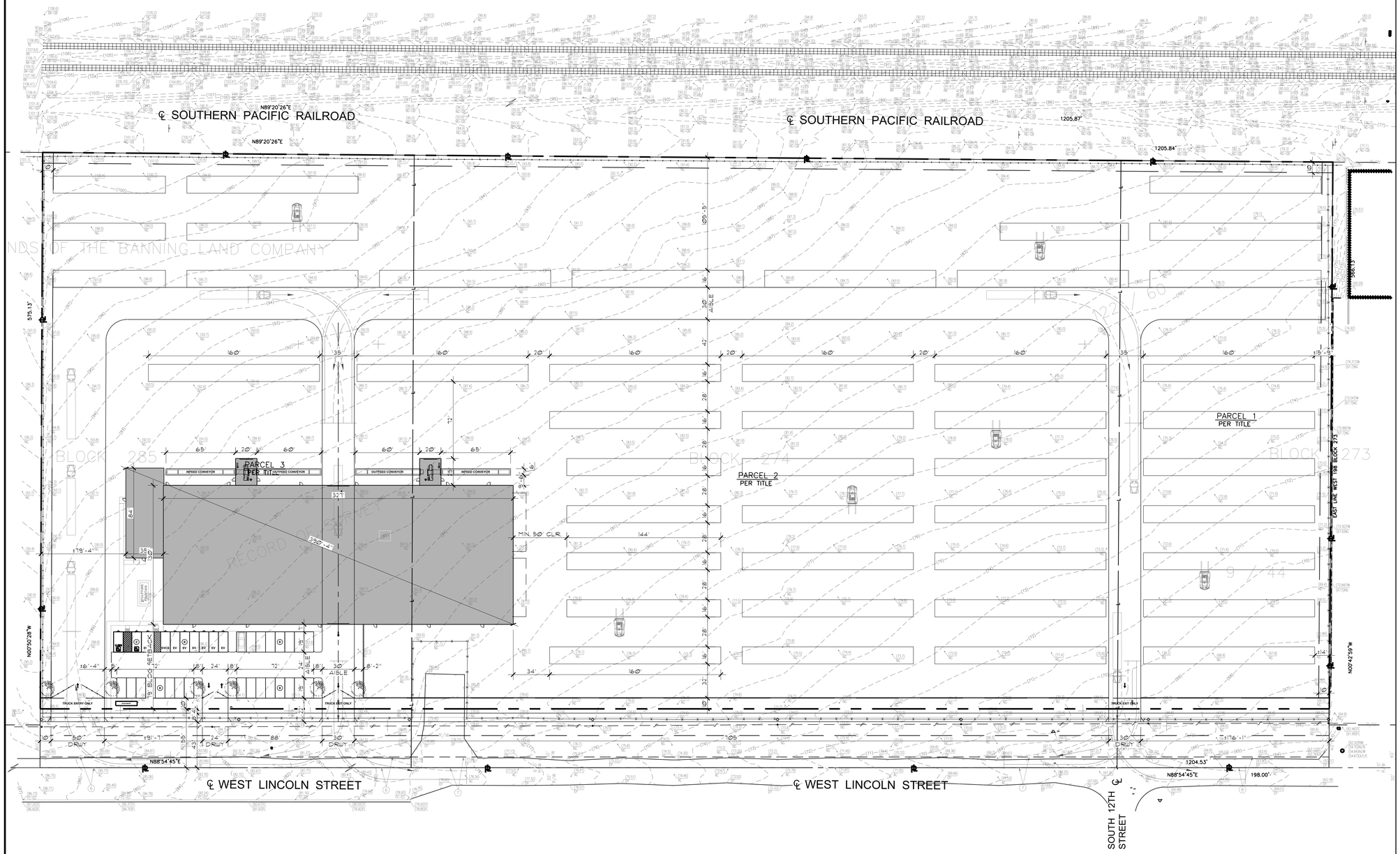



**Figure 5**
**Project Inbound Trip Distribution - Trucks**

# Appendix A

## Site Plan




N

## KEYNOTES

## NOTES

A. CONSTRUCTION IN THE PUBLIC RIGHT OF WAY AND PROJECTION BEYOND THE PROPERTY LINES OR INTO THE ALLEYS SHALL COMPLY WITH COUNTY OF LOS ANGELES BUILDING CODE CHAPTER 32.

B. PEDESTRIANS SHALL BE PROTECTED DURING CONSTRUCTION, REMODELING AND DEMOLITION ACTIVITIES.

**SITE PLAN** SCALE: 1" = 40'-0" (1)


VERTREES A&E
Architectural & Engineering Services
532 East Lambert Road
Brea, CA 92821
tel. 714.255.9645
www.vertreesae.com


△ DATE XXXX

Contractor:

Proposed:
**PROJECT NAME**

For:
**CLIENT/OWNER NAME**

CLIENT ADDRESS

Project Address:
**PROJECT ADDRESS**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# SITE PLAN

Plot Date
01/18/2023

VAE Project No.
000

# A1.1

# Appendix B

## Traffic Counts

A13123

## 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 7:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | 37 | 6 | 1 | 21 | 0 | 0 | 65 | **TOTAL** | 18 | 1 | 0 | 11 | 0 | 0 | 30 |
| | | | | **AM PEAK HOUR** | | | 4:15 AM | | | | | | | **AM PEAK HOUR** | 1:30 PM |
| | | | | **AM PEAK VOLUME** | | | 27 | | | | | | | **AM PEAK VOLUME** | 8 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **CLASS 1** | PASSENGER VEHICLES | **TOTAL: AM+PM** | 55 | 7 | 1 | 32 | 0 | 0 | 95 |
| **CLASS 2** | 2-AXLE TRUCKS | **% OF TOTAL** | 57.9% | 7.4% | 1.1% | 33.7% | 0.0% | 0.0% | 100.0% |
| **CLASS 3** | 3-AXLE TRUCKS | | | | | | | | |
| **CLASS 4** | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| **CLASS 5** | RV | **TOTAL: ALL** | 111 | 16 | 2 | 65 | 0 | 0 | 194 |
| **CLASS 6** | Buses | **% OF TOTAL** | 57.2% | 8.2% | 1.0% | 33.5% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:15 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 13:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 15 | 0 | 0 | 1 | 0 | 0 | 16 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 1 | 4 | 0 | 0 | 5 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 20:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 21:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 25 | 5 | 1 | 21 | 0 | 0 | 52 | TOTAL | 31 | 4 | 0 | 12 | 0 | 0 | 47 |
| | | | | AM PEAK HOUR | | | 1:15 AM | | | | | AM PEAK HOUR | | | 2:00 PM |
| | | | | AM PEAK VOLUME | | | 10 | | | | | AM PEAK VOLUME | | | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 56 | 9 | 1 | 33 | 0 | 0 | 99 |
| % OF TOTAL | 56.6% | 9.1% | 1.0% | 33.3% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | BUS |

A13123

## 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | | PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 2 | 0 | 0 | 4 |
| 1:15 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:15 | 1 | 0 | 0 | 4 | 0 | 0 | 5 |
| 1:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 13:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:45 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:45 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 17 | 0 | 0 | 1 | 0 | 0 | 18 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 4 | 0 | 0 | 1 | 0 | 0 | 5 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 4 | 1 | 0 | 0 | 0 | 0 | 5 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 | 7 | 0 | 0 | 2 | 0 | 0 | 9 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 1 | 0 | 0 | 5 | 0 | 0 | 6 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 1 | 6 | 0 | 0 | 7 | 17:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 5:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 17:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 1 | 0 | 0 | 3 | 0 | 0 | 4 | 18:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 6:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 7:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 20:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 2 | 0 | 3 | 0 | 0 | 6 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:15 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 21:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 9:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 2 | 0 | 1 | 0 | 0 | 5 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 62 | 11 | 2 | 42 | 0 | 0 | 117 | TOTAL | 49 | 5 | 0 | 23 | 0 | 0 | 77 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 29 |

| | |
|---|---|
| AM PEAK HOUR | 2:00 PM |
| AM PEAK VOLUME | 27 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 111 | 16 | 2 | 65 | 0 | 0 | 194 |
| % OF TOTAL | 57.2% | 8.2% | 1.0% | 33.5% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

A13123

## 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 16:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:45 | 5 | 0 | 0 | 2 | 0 | 0 | 7 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:45 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 0 | 0 | 2 | 0 | 0 | 4 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 3 | 0 | 1 | 0 | 0 | 5 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 31 | 8 | 2 | 29 | 0 | 0 | 70 | TOTAL | 14 | 2 | 0 | 12 | 0 | 0 | 28 |
| | | | | AM PEAK HOUR | | | 4:15 AM | | | | | AM PEAK HOUR | | | 2:00 PM |
| | | | | AM PEAK VOLUME | | | 25 | | | | | AM PEAK VOLUME | | | 11 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 45 | 10 | 2 | 41 | 0 | 0 | 98 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 45.9% | 10.2% | 2.0% | 41.8% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 89 | 24 | 3 | 82 | 0 | 0 | 198 |
| CLASS 6 | Buses | % OF TOTAL | 44.9% | 12.1% | 1.5% | 41.4% | 0.0% | 0.0% | 100.0% |

A13123

## 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | OUT | | | | | | |
|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 5:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 5:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 7:30 | 0 | 1 | 0 | 2 | 0 | 0 | 3 |
| 7:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:00 | 1 | 1 | 1 | 0 | 0 | 0 | 3 |
| 9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 9:45 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 10:00 | 1 | 2 | 0 | 2 | 0 | 0 | 5 |
| 10:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 11:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 11:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 11:45 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| TOTAL | 13 | 9 | 1 | 26 | 0 | 0 | 49 |

| | |
|---|---|
| AM PEAK HOUR | 9:30 AM |
| AM PEAK VOLUME | 11 |

| PM | OUT | | | | | | |
|---|---|---|---|---|---|---|---|
| Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 12:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 12:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 13:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13:15 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 13:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 |
| 13:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 |
| 14:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 14:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14:45 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 15:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 19:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 23:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 31 | 5 | 0 | 15 | 0 | 0 | 51 |

| | |
|---|---|
| AM PEAK HOUR | 1:15 PM |
| AM PEAK VOLUME | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | | 44 | 14 | 1 | 41 | 0 | 0 | 100 |
| % OF TOTAL | | 44.0% | 14.0% | 1.0% | 41.0% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | BUS |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | | PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 0:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:15 | 0 | 0 | 0 | 5 | 0 | 0 | 5 |
| 0:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 1 | 0 | 2 | 0 | 0 | 3 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 10 | 0 | 0 | 1 | 0 | 0 | 11 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 7 | 0 | 0 | 2 | 0 | 0 | 9 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 2 | 0 | 0 | 0 | 0 | 4 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 16:30 | 3 | 0 | 0 | 1 | 0 | 0 | 4 |
| 4:45 | 5 | 0 | 0 | 2 | 0 | 0 | 7 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 5 | 0 | 0 | 6 | 17:15 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 5:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 6:45 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 2 | 0 | 3 | 0 | 0 | 5 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 1 | 1 | 0 | 2 | 0 | 0 | 4 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 2 | 1 | 1 | 2 | 0 | 0 | 6 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 1 | 1 | 0 | 3 | 0 | 0 | 5 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 1 | 0 | 3 | 0 | 0 | 6 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 3 | 0 | 2 | 0 | 0 | 7 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 4 | 0 | 0 | 6 | 23:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11:45 | 1 | 5 | 0 | 1 | 0 | 0 | 7 | 23:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 44 | 17 | 3 | 55 | 0 | 0 | 119 | TOTAL | 45 | 7 | 0 | 27 | 0 | 0 | 79 |

| | |
|---|---|
| AM PEAK HOUR | 4:30 AM |
| AM PEAK VOLUME | 27 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 26 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 89 | 24 | 3 | 82 | 0 | 0 | 198 |
| % OF TOTAL | 44.9% | 12.1% | 1.5% | 41.4% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 8 | 0 | 0 | 1 | 0 | 0 | 9 | 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 | 16:45 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 3 | 0 | 0 | 3 | 0 | 0 | 6 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 27 | 4 | 1 | 22 | 0 | 0 | 54 | TOTAL | 16 | 3 | 2 | 6 | 0 | 0 | 27 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 22 |

| | |
|---|---|
| AM PEAK HOUR | 2:15 PM |
| AM PEAK VOLUME | 9 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 43 | 7 | 3 | 28 | 0 | 0 | 81 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 53.1% | 8.6% | 3.7% | 34.6% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 94 | 16 | 6 | 57 | 0 | 0 | 173 |
| CLASS 6 | Buses | % OF TOTAL | 54.3% | 9.2% | 3.5% | 32.9% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:15 | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 1 | 0 | 1 | 0 | 0 | 4 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 5:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 3 | 1 | 0 | 0 | 0 | 0 | 4 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:00 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 23:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 15 | 4 | 1 | 22 | 0 | 0 | 42 | TOTAL | 36 | 5 | 2 | 7 | 0 | 0 | 50 |
| | | | | AM PEAK HOUR | | | 9:00 AM | | | | | | | AM PEAK HOUR | 1:00 PM |
| | | | | AM PEAK VOLUME | | | 9 | | | | | | | AM PEAK VOLUME | 18 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 51 | 9 | 3 | 29 | 0 | 0 | 92 |
| % OF TOTAL | 55.4% | 9.8% | 3.3% | 31.5% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | BUS |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 4:30 | 9 | 0 | 0 | 1 | 0 | 0 | 10 |
| 4:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 |
| 5:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 5:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 5:30 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 5:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 6:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:45 | 0 | 1 | 2 | 3 | 0 | 0 | 6 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 7:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 1 | 1 | 0 | 2 | 0 | 0 | 4 |
| 8:15 | 3 | 1 | 0 | 1 | 0 | 0 | 5 |
| 8:30 | 4 | 0 | 0 | 3 | 0 | 0 | 7 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:00 | 0 | 1 | 0 | 3 | 0 | 0 | 4 |
| 9:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 9:30 | 0 | 1 | 0 | 3 | 0 | 0 | 4 |
| 9:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 10:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 10:30 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:30 | 1 | 1 | 0 | 1 | 0 | 0 | 3 |
| 11:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| TOTAL | 42 | 8 | 2 | 44 | 0 | 0 | 96 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 23 |

| PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|
| Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:15 | 2 | 0 | 2 | 1 | 0 | 0 | 5 |
| 12:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 12:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 13:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 13:30 | 13 | 0 | 0 | 0 | 0 | 0 | 13 |
| 13:45 | 2 | 2 | 1 | 1 | 0 | 0 | 6 |
| 14:00 | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| 14:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 14:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 15:00 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 15:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 15:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 15:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:45 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 19:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 19:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 52 | 8 | 4 | 13 | 0 | 0 | 77 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 23 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 94 | 16 | 6 | 57 | 0 | 0 | 173 |
| % OF TOTAL | 54.3% | 9.2% | 3.5% | 32.9% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

# MEMORANDUM

**TO:** Bryan Crawford, Senior Transportation Planner, Ganddini Group, Inc.
Kevin Sin, City of Banning

**FROM:** Joanna Rembis, ***Engineering Resources of Southern California, Inc.***
Stephen Manganiello, ***STC Traffic, Inc.***

**DATE:** 05/25/2023

**SUBJECT:** **18014001 - 213 - Banning Brown Strauss Industrial - TIA Scoping Agreement - PC1**

We have completed the review of the Traffic Impact Analysis (TIA) Scoping Agreement dated April 3, 2023, for the above-referenced project and the following comments are the result of our review.

**General Comments**

1. Please complete and attach a TIA Scoping Form per Appendix A of the City of Banning Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Travelled Analysis (October 2021).

**Site Access, Safety and Other Analyses**

2. Per Section 3.7 of the City's guidelines, please include the following for evaluation in the traffic impact analysis:
    a. Overlay project site plan with truck turning templates to confirm ingress and egress at all project driveways.
    b. Evaluate lane configurations, traffic control and potential turn restrictions at all project driveways.
    c. Analyze left turn storage, access control and spacing between driveways to determine whether number of driveways need to be consolidated.
    d. Analyze queuing at gates to confirm whether sufficient storage is provided on-site to prevent spillback onto adjacent roadways.

If you have any questions on these comments please contact Stephen Manganiello, Contract Traffic Engineer, at stephen.manganiello@stctraffic.com.

# APPENDIX C

# VOLUME COUNT WORKSHEETS

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | | | | |
|---|---|---|---|---|
| Tue, Aug 15, 23 | LOCATION: | Banning | PROJECT #: | SC4158 |
| | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

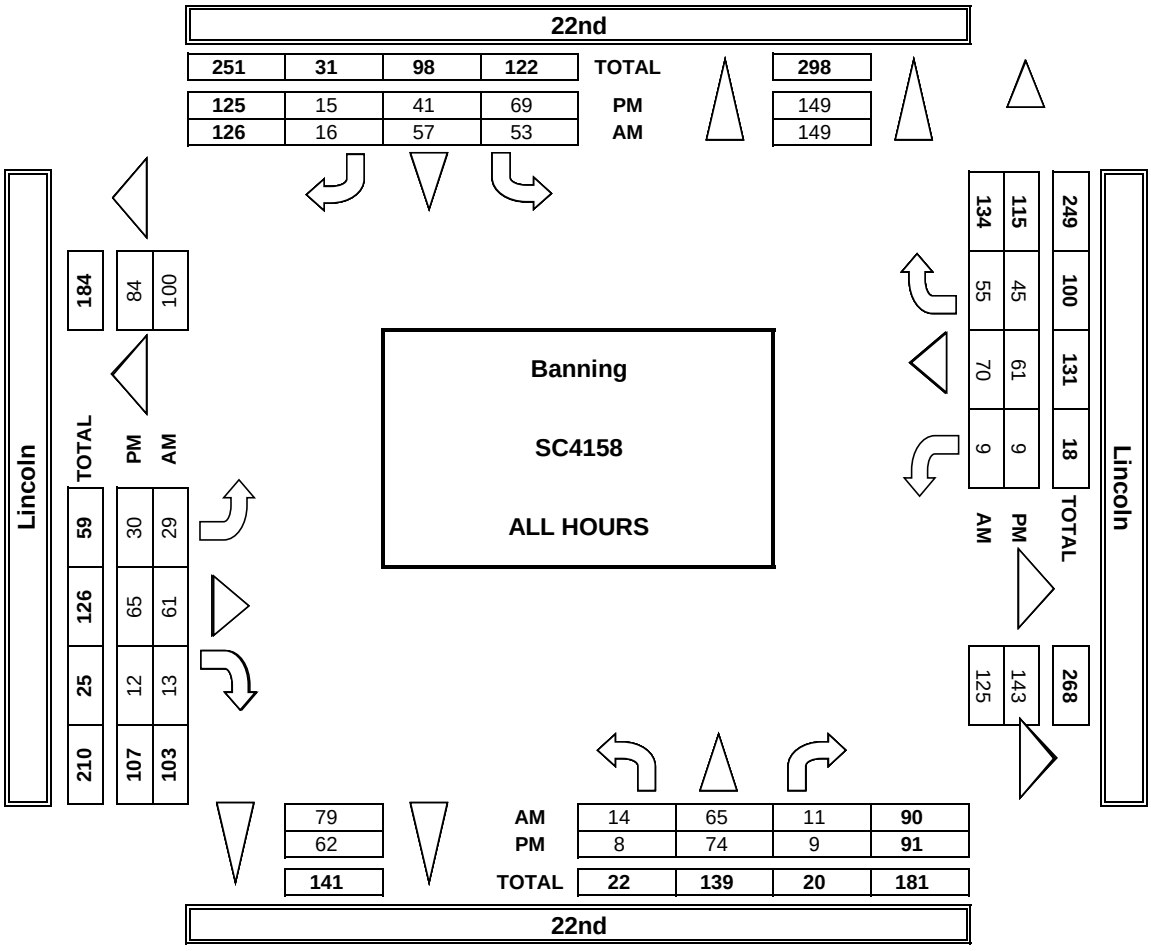
NOTES:

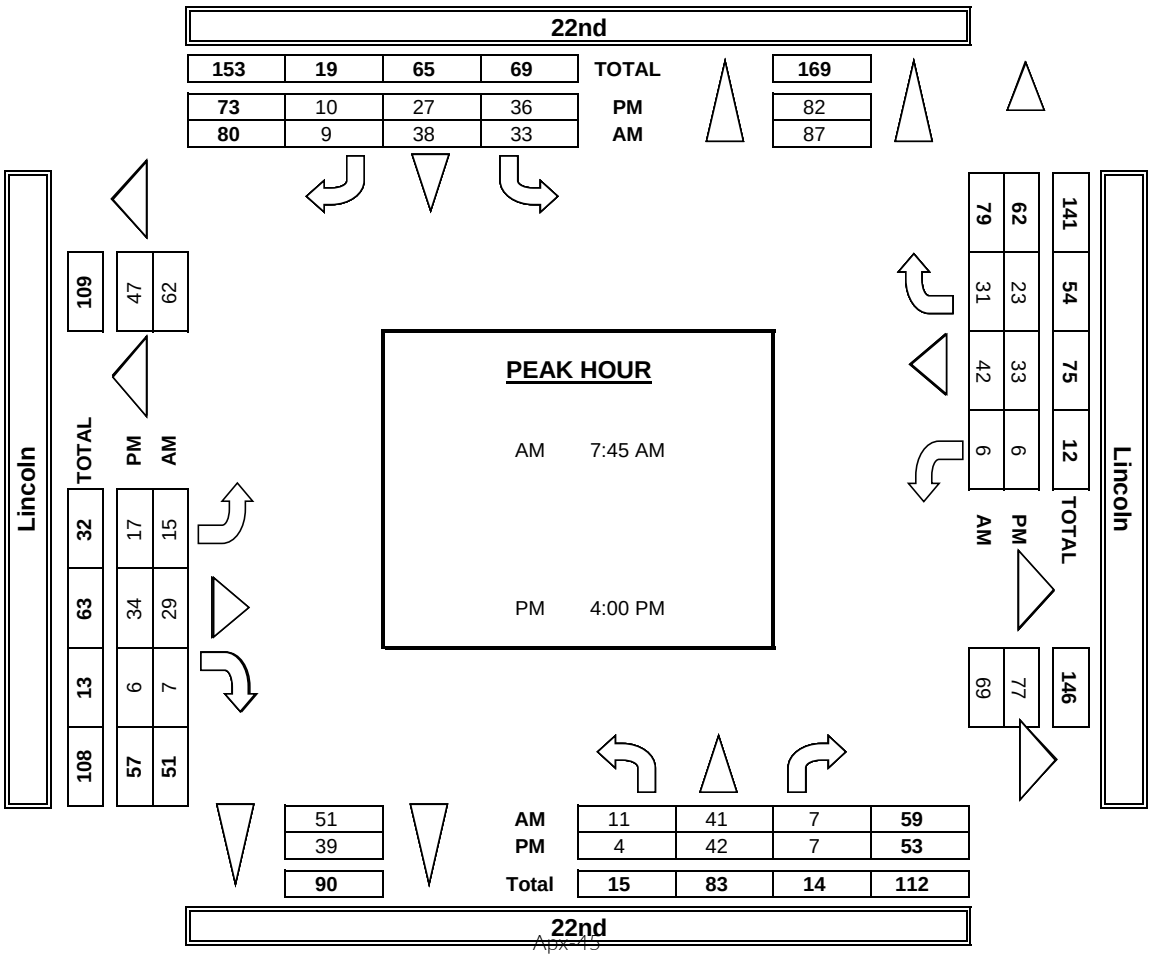
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB 0 | SB 0 | EB 0 | WB 0 | TTL |
| AM | 7:00 AM | 0 | 10 | 0 | 7 | 5 | 3 | 3 | 4 | 1 | 0 | 5 | 6 | 44 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 4 | 1 | 3 | 3 | 1 | 3 | 13 | 1 | 1 | 5 | 8 | 43 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 2 | 4 | 3 | 4 | 4 | 1 | 0 | 9 | 2 | 1 | 8 | 3 | 41 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 1 | 9 | 2 | 7 | 6 | 2 | 5 | 6 | 2 | 0 | 14 | 7 | 61 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 4 | 4 | 0 | 11 | 12 | 2 | 5 | 7 | 2 | 4 | 4 | 9 | 64 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 2 | 19 | 4 | 6 | 16 | 2 | 3 | 10 | 3 | 1 | 13 | 7 | 86 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 4 | 9 | 1 | 9 | 4 | 3 | 2 | 6 | 0 | 1 | 11 | 8 | 58 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 1 | 6 | 0 | 6 | 7 | 2 | 8 | 6 | 2 | 1 | 10 | 7 | 56 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 14 | 65 | 11 | 53 | 57 | 16 | 29 | 61 | 13 | 9 | 70 | 55 | 453 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 16% | 72% | 12% | 42% | 45% | 13% | 28% | 59% | 13% | 7% | 52% | 41% | | | | | | |
| | APP/DEPART | 90 | / | 149 | 126 | / | 79 | 103 | / | 125 | 134 | / | 100 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 11 | 41 | 7 | 33 | 38 | 9 | 15 | 29 | 7 | 6 | 42 | 31 | 269 | | | | | |
| | APPROACH % | 19% | 69% | 12% | 41% | 48% | 11% | 29% | 57% | 14% | 8% | 53% | 39% | | | | | | |
| | PEAK HR FACTOR | | 0.590 | | | 0.800 | | | 0.797 | | | 0.940 | | 0.782 | | | | | |
| | APP/DEPART | 59 | / | 87 | 80 | / | 51 | 51 | / | 69 | 79 | / | 62 | 0 | | | | | |
| PM | 4:00 PM | 1 | 17 | 2 | 10 | 9 | 3 | 5 | 7 | 3 | 2 | 7 | 6 | 72 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 2 | 12 | 3 | 9 | 6 | 4 | 2 | 6 | 1 | 1 | 11 | 8 | 65 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 1 | 8 | 1 | 11 | 8 | 2 | 7 | 13 | 2 | 2 | 8 | 5 | 68 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 5 | 1 | 6 | 4 | 1 | 3 | 8 | 0 | 1 | 7 | 4 | 40 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 2 | 11 | 0 | 8 | 8 | 2 | 4 | 10 | 2 | 0 | 6 | 6 | 59 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 1 | 5 | 1 | 5 | 2 | 0 | 2 | 5 | 1 | 1 | 9 | 4 | 36 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 9 | 1 | 12 | 3 | 2 | 6 | 11 | 2 | 1 | 8 | 7 | 62 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 1 | 7 | 0 | 8 | 1 | 1 | 1 | 5 | 1 | 1 | 5 | 5 | 36 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 8 | 74 | 9 | 69 | 41 | 15 | 30 | 65 | 12 | 9 | 61 | 45 | 438 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 9% | 81% | 10% | 55% | 33% | 12% | 28% | 61% | 11% | 8% | 53% | 39% | | | | | | |
| | APP/DEPART | 91 | / | 149 | 125 | / | 62 | 107 | / | 143 | 115 | / | 84 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 4 | 42 | 7 | 36 | 27 | 10 | 17 | 34 | 6 | 6 | 33 | 23 | 245 | | | | | |
| | APPROACH % | 8% | 79% | 13% | 49% | 37% | 14% | 30% | 60% | 11% | 10% | 53% | 37% | | | | | | |
| | PEAK HR FACTOR | | 0.663 | | | 0.830 | | | 0.648 | | | 0.775 | | 0.851 | | | | | |
| | APP/DEPART | 53 | / | 82 | 73 | / | 39 | 57 | / | 77 | 62 | / | 47 | 0 | | | | | |

**AimTD LLC**

TURNING MOVEMENT COUNTS



## INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| | NOTES: | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCE | Class | 1 | 2 | 3 | 4 | 5 | 6 | | | AM | | ▲ N | |
| Adjusted | Factor | 1 | 1.5 | 2 | 3 | 3 | 3 | | | PM MD | ◄ W | | E ► |
| | | | | | | | | | | OTHER | | S ▼ | |
| | | | | | | | | | | OTHER | | | |

| | | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | NB | SB | EB | WB | TTL |
| | LANES: | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | | | | | | |
| AM | 7:00 AM | 0 | 13 | 0 | 8 | 5 | 5 | 3 | 5 | 2 | 0 | 6 | 7 | 54 | | | | | 0 |
| | 7:15 AM | 0 | 5 | 1 | 4 | 3 | 1 | 3 | 14 | 1 | 1 | 8 | 9 | 49 | | | | | 0 |
| | 7:30 AM | 4 | 5 | 3 | 5 | 5 | 1 | 0 | 10 | 2 | 1 | 9 | 3 | 46 | | | | | 0 |
| | 7:45 AM | 1 | 10 | 2 | 8 | 6 | 2 | 5 | 6 | 2 | 0 | 15 | 7 | 64 | | | | | 0 |
| | 8:00 AM | 4 | 6 | 0 | 11 | 13 | 2 | 6 | 8 | 2 | 4 | 4 | 10 | 68 | | | | | 0 |
| | 8:15 AM | 2 | 20 | 4 | 6 | 17 | 2 | 3 | 11 | 4 | 1 | 14 | 7 | 90 | | | | | 0 |
| | 8:30 AM | 4 | 10 | 1 | 13 | 4 | 3 | 2 | 6 | 0 | 1 | 15 | 8 | 66 | | | | | 0 |
| | 8:45 AM | 2 | 6 | 0 | 6 | 7 | 2 | 9 | 6 | 2 | 1 | 12 | 11 | 64 | | | | | 0 |
| | VOLUMES | 17 | 74 | 11 | 59 | 59 | 18 | 31 | 64 | 15 | 9 | 81 | 62 | 499 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 17% | 73% | 11% | 43% | 43% | 13% | 28% | 58% | 14% | 6% | 53% | 41% | | | | | | |
| | APP/DEPART | 102 | / | 167 | 135 | / | 83 | 110 | / | 134 | 152 | / | 116 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 | 287 | | | | | |
| | APPROACH % | 17% | 72% | 11% | 44% | 46% | 11% | 29% | 56% | 15% | 7% | 55% | 38% | | | | | | |
| | PEAK HR FACTOR | | 0.611 | | | 0.833 | | | 0.764 | | | 0.904 | | 0.802 | | | | | |
| | APP/DEPART | 64 | / | 93 | 85 | / | 53 | 54 | / | 74 | 85 | / | 67 | 0 | | | | | |
| PM | 4:00 PM | 1 | 18 | 2 | 11 | 9 | 3 | 5 | 9 | 3 | 2 | 8 | 7 | 77 | | | | | 0 |
| | 4:15 PM | 2 | 12 | 3 | 9 | 7 | 4 | 2 | 7 | 1 | 1 | 13 | 8 | 68 | | | | | 0 |
| | 4:30 PM | 1 | 9 | 1 | 11 | 8 | 2 | 7 | 15 | 2 | 2 | 10 | 5 | 72 | | | | | 0 |
| | 4:45 PM | 0 | 5 | 1 | 7 | 5 | 1 | 3 | 8 | 0 | 1 | 7 | 4 | 41 | | | | | 0 |
| | 5:00 PM | 2 | 12 | 0 | 8 | 8 | 2 | 4 | 10 | 2 | 0 | 7 | 8 | 62 | | | | | 0 |
| | 5:15 PM | 1 | 5 | 1 | 5 | 2 | 0 | 2 | 5 | 1 | 1 | 10 | 5 | 38 | | | | | 0 |
| | 5:30 PM | 0 | 9 | 1 | 12 | 3 | 2 | 6 | 11 | 2 | 1 | 8 | 7 | 62 | | | | | 0 |
| | 5:45 PM | 1 | 7 | 0 | 8 | 1 | 1 | 1 | 5 | 1 | 1 | 5 | 5 | 36 | | | | | 0 |
| | VOLUMES | 8 | 76 | 9 | 70 | 42 | 15 | 30 | 69 | 12 | 9 | 67 | 48 | 455 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 9% | 82% | 10% | 55% | 33% | 12% | 27% | 62% | 11% | 7% | 54% | 39% | | | | | | |
| | APP/DEPART | 93 | / | 154 | 127 | / | 63 | 111 | / | 148 | 124 | / | 90 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 | 258 | | | | | |
| | APPROACH % | 7% | 80% | 13% | 49% | 37% | 13% | 28% | 62% | 10% | 9% | 56% | 35% | | | | | | |
| | PEAK HR FACTOR | | 0.649 | | | 0.833 | | | 0.649 | | | 0.761 | | 0.842 | | | | | |
| | APP/DEPART | 55 | / | 84 | 75 | / | 40 | 61 | / | 82 | 67 | / | 52 | 0 | | | | | |

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

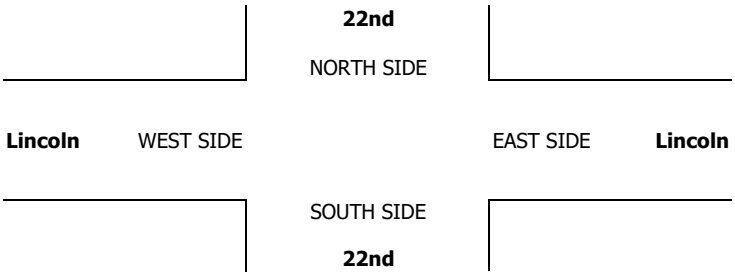
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 1:** PASSENGER VEHICLES

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 8 | 0 | 6 | 5 | 2 | 3 | 3 | 0 | 0 | 3 | 4 | 34 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 3 | 1 | 2 | 3 | 1 | 3 | 12 | 1 | 1 | 2 | 6 | 35 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 1 | 3 | 3 | 3 | 3 | 1 | 0 | 8 | 2 | 1 | 6 | 3 | 34 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 1 | 7 | 2 | 6 | 6 | 2 | 5 | 6 | 2 | 0 | 12 | 7 | 56 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 4 | 1 | 0 | 11 | 11 | 2 | 4 | 6 | 2 | 4 | 4 | 7 | 56 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 2 | 18 | 4 | 6 | 15 | 2 | 3 | 9 | 2 | 1 | 12 | 7 | 81 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 4 | 8 | 1 | 5 | 4 | 3 | 2 | 6 | 0 | 1 | 8 | 8 | 50 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 6 | 0 | 6 | 7 | 2 | 7 | 6 | 2 | 1 | 7 | 3 | 47 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 12 | 54 | 11 | 45 | 54 | 15 | 27 | 56 | 11 | 9 | 54 | 45 | 393 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 16% | 70% | 14% | 39% | 47% | 13% | 29% | 60% | 12% | 8% | 50% | 42% | | | | | | |
| | APP/DEPART | 77 | / | 126 | 114 | / | 74 | 94 | / | 112 | 108 | / | 81 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 11 | 34 | 7 | 28 | 36 | 9 | 14 | 27 | 6 | 6 | 36 | 29 | 243 | | | | | |
| | APPROACH % | 21% | 65% | 13% | 38% | 49% | 12% | 30% | 57% | 13% | 8% | 51% | 41% | | | | | | |
| | PEAK HR FACTOR | | 0.542 | | | 0.760 | | | 0.839 | | | 0.888 | | 0.750 | | | | | |
| | APP/DEPART | 52 | / | 77 | 73 | / | 48 | 47 | / | 62 | 71 | / | 56 | 0 | | | | | |
| PM | 4:00 PM | 1 | 15 | 2 | 9 | 9 | 3 | 5 | 6 | 3 | 2 | 6 | 5 | 66 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 2 | 12 | 3 | 9 | 5 | 4 | 2 | 5 | 1 | 1 | 10 | 8 | 62 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 1 | 7 | 1 | 11 | 8 | 2 | 7 | 11 | 2 | 2 | 7 | 5 | 64 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 5 | 1 | 5 | 3 | 1 | 3 | 8 | 0 | 1 | 7 | 4 | 38 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 2 | 10 | 0 | 8 | 8 | 2 | 4 | 10 | 2 | 0 | 5 | 5 | 56 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 1 | 5 | 1 | 5 | 2 | 0 | 2 | 5 | 1 | 1 | 8 | 3 | 34 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 9 | 1 | 12 | 3 | 2 | 6 | 11 | 2 | 1 | 8 | 7 | 62 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 1 | 7 | 0 | 8 | 1 | 1 | 1 | 5 | 1 | 1 | 5 | 5 | 36 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 8 | 70 | 9 | 67 | 39 | 15 | 30 | 61 | 12 | 9 | 56 | 42 | 418 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 9% | 80% | 10% | 55% | 32% | 12% | 29% | 59% | 12% | 8% | 52% | 39% | | | | | | |
| | APP/DEPART | 87 | / | 142 | 121 | / | 60 | 103 | / | 137 | 107 | / | 79 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 4 | 39 | 7 | 34 | 25 | 10 | 17 | 30 | 6 | 6 | 30 | 22 | 230 | | | | | |
| | APPROACH % | 8% | 78% | 14% | 49% | 36% | 14% | 32% | 57% | 11% | 10% | 52% | 38% | | | | | | |
| | PEAK HR FACTOR | | 0.694 | | | 0.821 | | | 0.663 | | | 0.763 | | 0.871 | | | | | |
| | APP/DEPART | 50 | / | 78 | 69 | / | 37 | 53 | / | 71 | 58 | / | 44 | 0 | | | | | |



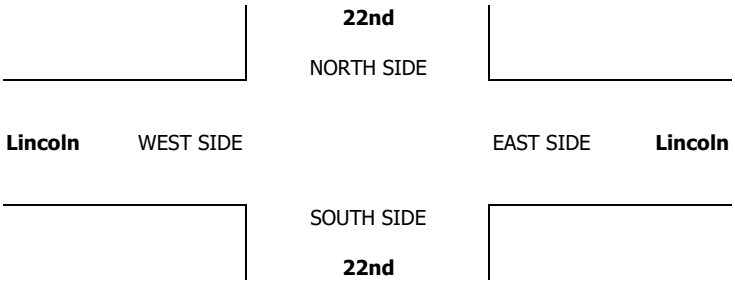
# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS | NOTES: | AM / PM / MD / OTHER / OTHER | ▲ N / ◄ W / E ► / S ▼ |
|---|---|---|---|

| | | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 8 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 5 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 6 | 0 | 7 | 3 | 0 | 1 | 4 | 0 | 0 | 12 | 8 | 41 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 100% | 0% | 70% | 30% | 0% | 20% | 80% | 0% | 0% | 60% | 40% | | | | | | |
| | APP/DEPART | 6 | / | 15 | 10 | / | 3 | 5 | / | 11 | 20 | / | 12 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 5 | 0 | 4 | 2 | 0 | 1 | 2 | 0 | 0 | 4 | 2 | 20 | | | | | |
| | APPROACH % | 0% | 100% | 0% | 67% | 33% | 0% | 33% | 67% | 0% | 0% | 67% | 33% | | | | | | |
| | PEAK HR FACTOR | | 0.417 | | | 0.500 | | | 0.375 | | | 0.750 | | 0.625 | | | | | |
| | APP/DEPART | 5 | / | 8 | 6 | / | 2 | 3 | / | 6 | 6 | / | 4 | 0 | | | | | |
| PM | 4:00 PM | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 4 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 14 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 100% | 0% | 50% | 50% | 0% | 0% | 100% | 0% | 0% | 50% | 50% | | | | | | |
| | APP/DEPART | 4 | / | 6 | 4 | / | 2 | 2 | / | 4 | 4 | / | 2 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 3 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 11 | | | | | |
| | APPROACH % | 0% | 100% | 0% | 50% | 50% | 0% | 0% | 100% | 0% | 0% | 50% | 50% | | | | | | |
| | PEAK HR FACTOR | | 0.375 | | | 0.500 | | | 0.500 | | | 0.250 | | 0.550 | | | | | |
| | APP/DEPART | 3 | / | 4 | 4 | / | 2 | 2 | / | 4 | 2 | / | 1 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

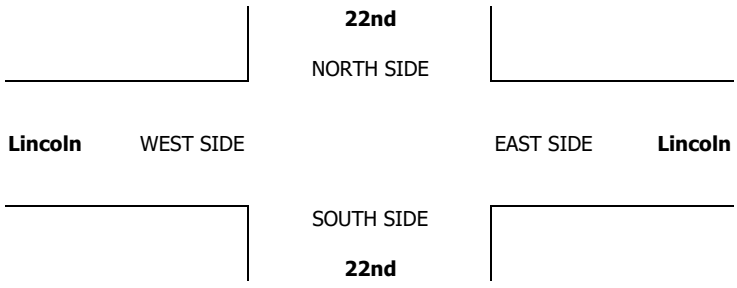
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 3:** 3-AXLE TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| **AM** | | | | | | | | | | | | | | | | | | |
| 7:00 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 1 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 3 | 1 | 13 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 20% | 80% | 0% | 0% | 0% | 0% | 25% | 25% | 50% | 0% | 75% | 25% | | | | | | |
| APP/DEPART | 5 | / | 6 | 0 | / | 2 | 4 | / | 1 | 4 | / | 4 | 0 | | | | | |
| BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 4 | | | | | |
| APPROACH % | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 100% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.500 | | | 0.000 | | | 0.250 | | | 0.250 | | 0.500 | | | | | |
| APP/DEPART | 2 | / | 2 | 0 | / | 1 | 1 | / | 0 | 1 | / | 1 | 0 | | | | | |
| **PM** | | | | | | | | | | | | | | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 100% | 0% | | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 1 | / | 1 | 0 | | | | | |
| BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.250 | | | 0.000 | | 0.250 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

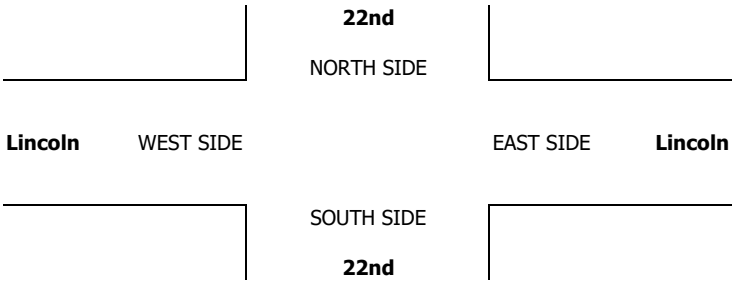
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 4:** 4 OR MORE AXLE TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| **AM** | | | | | | | | | | | | | | | | | | |
| 7:00 AM | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 6 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 50% | 50% | 0% | 50% | 0% | 50% | 0% | 0% | 0% | 0% | 50% | 50% | | | | | | |
| APP/DEPART | 2 | / | 2 | 2 | / | 0 | 0 | / | 1 | 2 | / | 3 | 0 | | | | | |
| BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | | | | | |
| APPROACH % | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.250 | | | 0.000 | | | 0.250 | | 0.250 | | | | | |
| APP/DEPART | 0 | / | 0 | 1 | / | 0 | 0 | / | 1 | 1 | / | 1 | 0 | | | | | |
| **PM** | | | | | | | | | | | | | | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 67% | 33% | | | | | | |
| APP/DEPART | 0 | / | 1 | 0 | / | 0 | 0 | / | 0 | 3 | / | 2 | 0 | | | | | |
| BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.500 | | 0.500 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 2 | / | 2 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

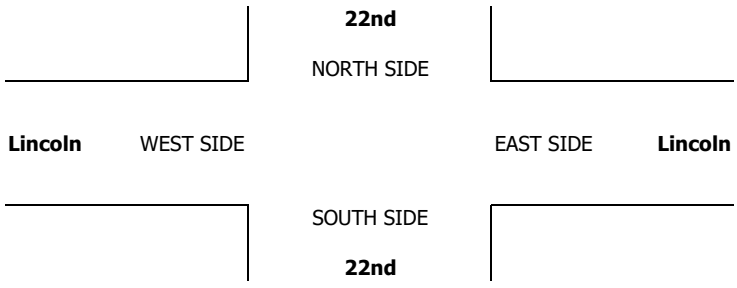
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| CLASS 5: | NOTES: |
|---|---|
| RV | |

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

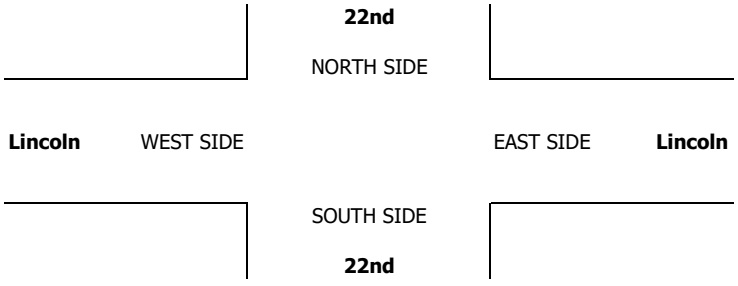
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| CLASS 6: | NOTES: |
|---|---|
| BUSES | |

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| **AM** | | | | | | | | | | | | | | | | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| **PM** | | | | | | | | | | | | | | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |
| BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.250 | | | 0.000 | | 0.250 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

T42321

DATE: Tue, Aug 15, 23

LOCATION: Banning
NORTH & SOUTH: 12th
EAST & WEST: Lincoln

PROJECT #: SC4158
LOCATION #: 3
CONTROL: STOP N

NOTES:

AM / PM / MD / OTHER / OTHER

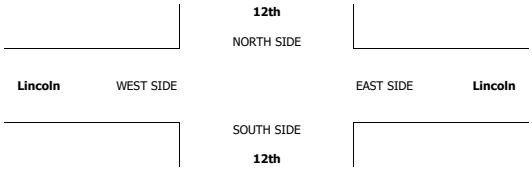
▲ N ◄ W E ► S ▼

| | | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 14 |
| | 7:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 18 | 0 | 1 | 12 | 0 | 32 |
| | 7:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 17 | 0 | 1 | 8 | 0 | 28 |
| | 7:45 AM | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 13 | 0 | 1 | 16 | 0 | 36 |
| | 8:00 AM | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 13 | 2 | 1 | 13 | 0 | 32 |
| | 8:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 20 | 0 | 4 | 21 | 0 | 47 |
| | 8:30 AM | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 13 | 2 | 5 | 12 | 0 | 37 |
| | 8:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 | 0 | 2 | 17 | 0 | 33 |
| | VOLUMES | 4 | 0 | 16 | 0 | 0 | 0 | 0 | 114 | 4 | 15 | 106 | 0 | 259 |
| | APPROACH % | 20% | 0% | 80% | 0% | 0% | 0% | 0% | 97% | 3% | 12% | 88% | 0% | |
| | APP/DEPART | 20 | / | 0 | 0 | / | 19 | 118 | / | 130 | 121 | / | 110 | 0 |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | |
| | VOLUMES | 4 | 0 | 12 | 0 | 0 | 0 | 0 | 59 | 4 | 11 | 62 | 0 | 152 |
| | APPROACH % | 25% | 0% | 75% | 0% | 0% | 0% | 0% | 94% | 6% | 15% | 85% | 0% | |
| | PEAK HR FACTOR | | 0.667 | | | 0.000 | | | 0.788 | | | 0.730 | | 0.809 |
| | APP/DEPART | 16 | / | 0 | 0 | / | 15 | 63 | / | 71 | 73 | / | 66 | 0 |
| PM | 4:00 PM | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 17 | 0 | 3 | 16 | 0 | 38 |
| | 4:15 PM | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 13 | 2 | 1 | 18 | 0 | 38 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 2 | 13 | 0 | 38 |
| | 4:45 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 0 | 11 | 0 | 23 |
| | 5:00 PM | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 12 | 0 | 31 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 3 | 11 | 0 | 22 |
| | 5:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 1 | 1 | 14 | 0 | 37 |
| | 5:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 11 | 1 | 1 | 12 | 0 | 27 |
| | VOLUMES | 5 | 0 | 9 | 0 | 0 | 0 | 0 | 116 | 5 | 12 | 107 | 0 | 254 |
| | APPROACH % | 36% | 0% | 64% | 0% | 0% | 0% | 0% | 96% | 4% | 10% | 90% | 0% | |
| | APP/DEPART | 14 | / | 0 | 0 | / | 17 | 121 | / | 125 | 119 | / | 112 | 0 |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | |
| | VOLUMES | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 63 | 3 | 6 | 58 | 0 | 137 |
| | APPROACH % | 57% | 0% | 43% | 0% | 0% | 0% | 0% | 95% | 5% | 9% | 91% | 0% | |
| | PEAK HR FACTOR | | 0.438 | | | 0.000 | | | 0.717 | | | 0.842 | | 0.901 |
| | APP/DEPART | 7 | / | 0 | 0 | / | 9 | 66 | / | 66 | 64 | / | 62 | 0 |

**U-TURNS**

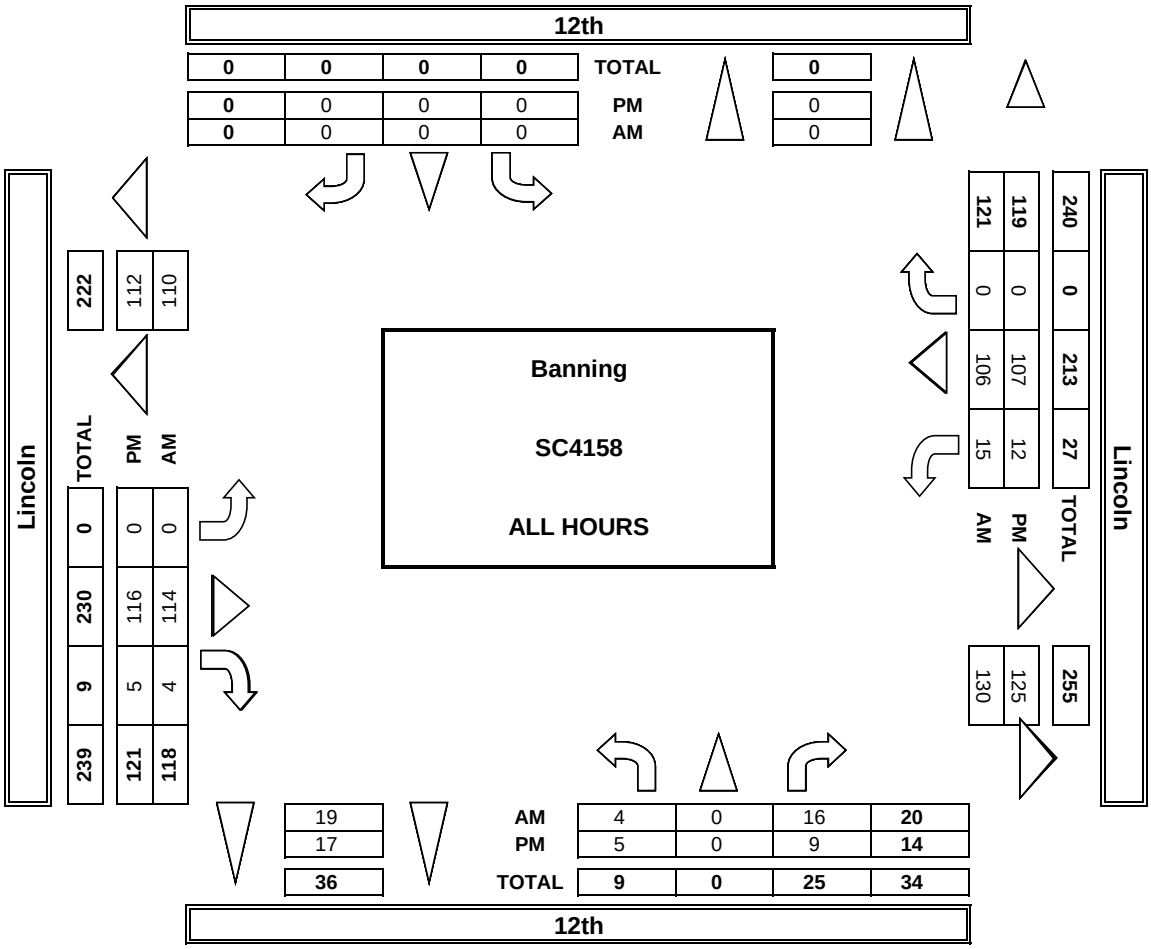
| AM NB | SB | EB | WB | TTL |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |

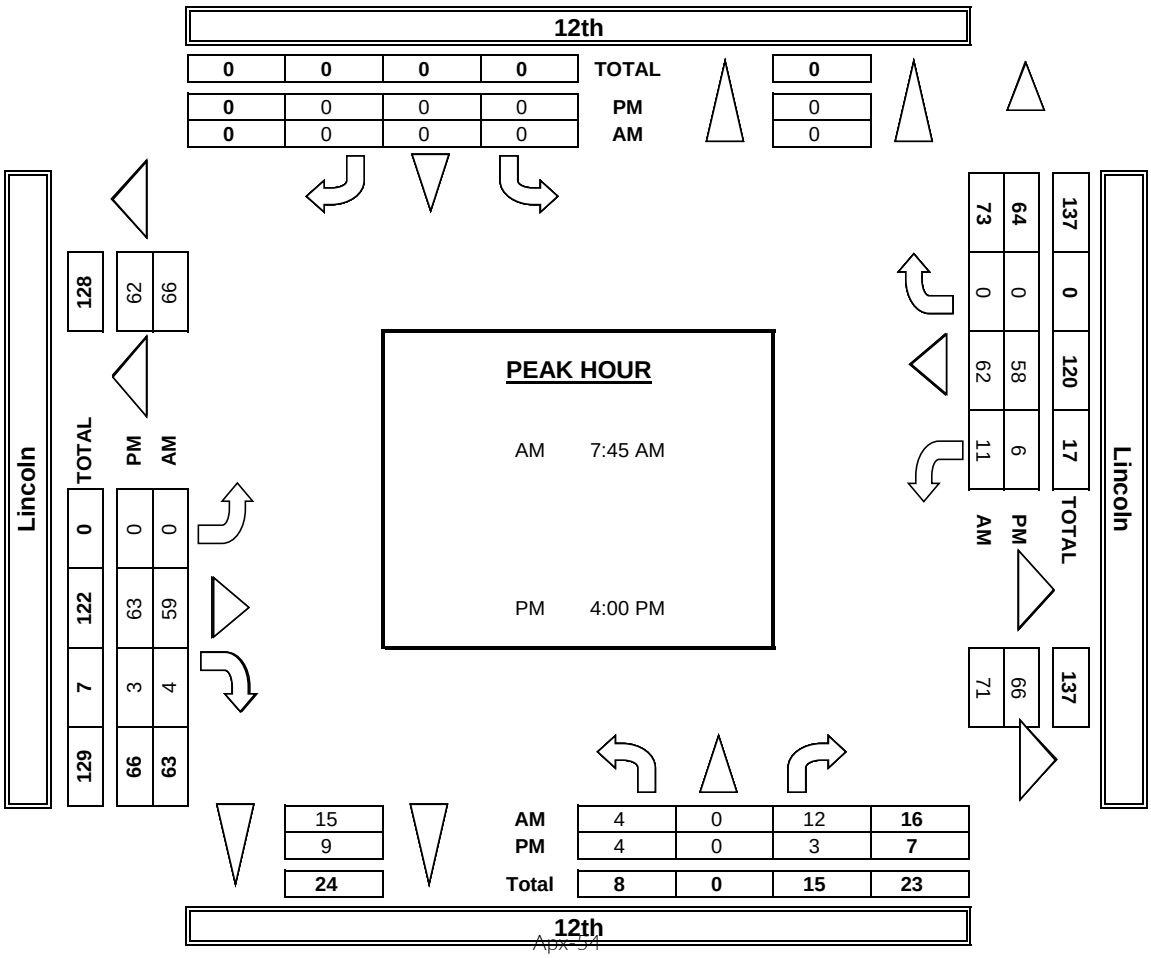
| PM NB | SB | EB | WB | TTL |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |



**AimTD LLC**

TURNING MOVEMENT COUNTS



## INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

| | NOTES: | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCE | Class | 1 | 2 | 3 | 4 | 5 | 6 | | | AM | | ▲ N | |
| Adjusted | Factor | 1 | 1.5 | 2 | 3 | 3 | 3 | | | PM MD | ◄ W | | E ► |
| | | | | | | | | | | OTHER | | S ▼ | |
| | | | | | | | | | | OTHER | | | |

| | | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 9 | 0 | 18 | | | | | 0 |
| | 7:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 19 | 0 | 1 | 16 | 0 | 36 | | | | | 0 |
| | 7:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 18 | 0 | 1 | 10 | 0 | 31 | | | | | 0 |
| | 7:45 AM | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 19 | 0 | 40 | | | | | 0 |
| | 8:00 AM | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 14 | 2 | 2 | 14 | 0 | 34 | | | | | 0 |
| | 8:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 21 | 0 | 4 | 21 | 0 | 48 | | | | | 0 |
| | 8:30 AM | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 14 | 2 | 7 | 16 | 0 | 45 | | | | | 0 |
| | 8:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 | 0 | 2 | 21 | 0 | 37 | | | | | 0 |
| | VOLUMES | 5 | 0 | 17 | 0 | 0 | 0 | 0 | 120 | 4 | 18 | 124 | 0 | 286 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 21% | 0% | 79% | 0% | 0% | 0% | 0% | 97% | 3% | 12% | 88% | 0% | | | | | | |
| | APP/DEPART | 21 | / | 0 | 0 | / | 22 | 124 | / | 136 | 142 | / | 129 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 | 166 | | | | | |
| | APPROACH % | 26% | 0% | 74% | 0% | 0% | 0% | 0% | 94% | 6% | 16% | 84% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.708 | | | 0.000 | | | 0.799 | | | 0.830 | | 0.871 | | | | | |
| | APP/DEPART | 17 | / | 0 | 0 | / | 18 | 66 | / | 74 | 83 | / | 74 | 0 | | | | | |
| PM | 4:00 PM | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 0 | 3 | 17 | 0 | 42 | | | | | 0 |
| | 4:15 PM | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 14 | 2 | 1 | 20 | 0 | 41 | | | | | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 2 | 15 | 0 | 42 | | | | | 0 |
| | 4:45 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 1 | 0 | 11 | 0 | 24 | | | | | 0 |
| | 5:00 PM | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 15 | 0 | 34 | | | | | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 4 | 13 | 0 | 24 | | | | | 0 |
| | 5:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 1 | 1 | 14 | 0 | 37 | | | | | 0 |
| | 5:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 11 | 1 | 1 | 13 | 0 | 28 | | | | | 0 |
| | VOLUMES | 5 | 0 | 9 | 0 | 0 | 0 | 0 | 121 | 5 | 13 | 117 | 0 | 269 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 36% | 0% | 64% | 0% | 0% | 0% | 0% | 96% | 4% | 10% | 90% | 0% | | | | | | |
| | APP/DEPART | 14 | / | 0 | 0 | / | 18 | 126 | / | 130 | 129 | / | 122 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 | 147 | | | | | |
| | APPROACH % | 57% | 0% | 43% | 0% | 0% | 0% | 0% | 96% | 4% | 9% | 91% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.438 | | | 0.000 | | | 0.724 | | | 0.821 | | 0.886 | | | | | |
| | APP/DEPART | 7 | / | 0 | 0 | / | 9 | 71 | / | 71 | 69 | / | 67 | 0 | | | | | |

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

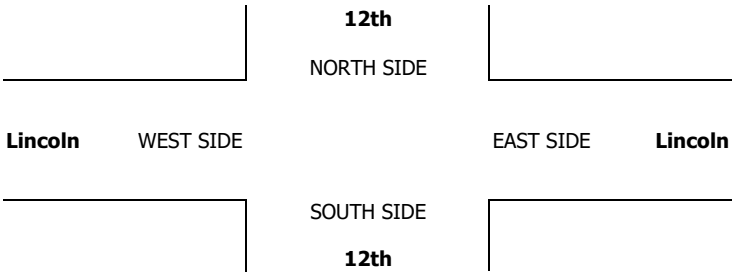
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

**CLASS 1:** PASSENGER VEHICLES

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 3 | 0 | 8 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 17 | 0 | 1 | 7 | 0 | 26 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 15 | 0 | 1 | 5 | 0 | 23 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 12 | 0 | 1 | 13 | 0 | 32 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 12 | 2 | 0 | 12 | 0 | 28 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 19 | 0 | 4 | 21 | 0 | 46 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 11 | 2 | 2 | 8 | 0 | 27 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 | 0 | 2 | 11 | 0 | 27 | 0 | 0 | 0 | 0 | 0 |
| AM VOLUMES | 3 | 0 | 15 | 0 | 0 | 0 | 0 | 104 | 4 | 11 | 80 | 0 | 217 | 0 | 0 | 0 | 0 | 0 |
| AM APPROACH % | 17% | 0% | 83% | 0% | 0% | 0% | 0% | 96% | 4% | 12% | 88% | 0% | | | | | | |
| AM APP/DEPART | 18 | / | 0 | 0 | / | 15 | 108 | / | 119 | 91 | / | 83 | 0 | | | | | |
| BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| AM VOLUMES | 3 | 0 | 11 | 0 | 0 | 0 | 0 | 54 | 4 | 7 | 54 | 0 | 133 | | | | | |
| AM APPROACH % | 21% | 0% | 79% | 0% | 0% | 0% | 0% | 93% | 7% | 11% | 89% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.583 | | | 0.000 | | | 0.763 | | | 0.610 | | 0.723 | | | | | |
| AM APP/DEPART | 14 | / | 0 | 0 | / | 11 | 58 | / | 65 | 61 | / | 57 | 0 | | | | | |
| 4:00 PM | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 15 | 0 | 3 | 14 | 0 | 34 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 12 | 2 | 1 | 17 | 0 | 36 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 2 | 12 | 0 | 35 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 1 | 0 | 11 | 0 | 22 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 10 | 0 | 29 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 2 | 9 | 0 | 19 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 1 | 1 | 14 | 0 | 37 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 11 | 1 | 1 | 11 | 0 | 26 | 0 | 0 | 0 | 0 | 0 |
| PM VOLUMES | 5 | 0 | 9 | 0 | 0 | 0 | 0 | 110 | 5 | 11 | 98 | 0 | 238 | 0 | 0 | 0 | 0 | 0 |
| PM APPROACH % | 36% | 0% | 64% | 0% | 0% | 0% | 0% | 96% | 4% | 10% | 90% | 0% | | | | | | |
| PM APP/DEPART | 14 | / | 0 | 0 | / | 16 | 115 | / | 119 | 109 | / | 103 | 0 | | | | | |
| BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| PM VOLUMES | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 57 | 3 | 6 | 54 | 0 | 127 | | | | | |
| PM APPROACH % | 57% | 0% | 43% | 0% | 0% | 0% | 0% | 95% | 5% | 10% | 90% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.438 | | | 0.000 | | | 0.714 | | | 0.833 | | 0.882 | | | | | |
| PM APP/DEPART | 7 | / | 0 | 0 | / | 9 | 60 | / | 60 | 60 | / | 58 | 0 | | | | | |



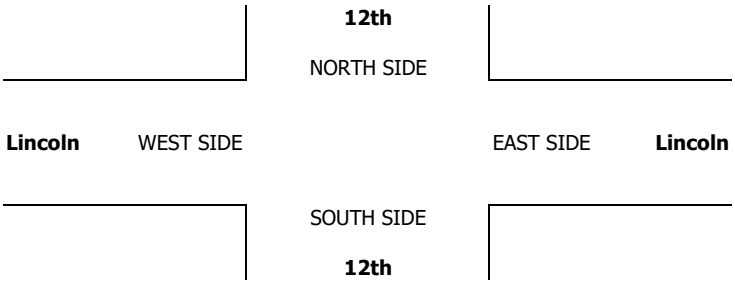
# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

| CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS | NOTES: | AM / PM / MD / OTHER / OTHER | ▲ N / ◄ W / E ► / S ▼ |
|---|---|---|---|

| | | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 9 | 0 | 3 | 20 | 0 | 34 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 50% | 0% | 50% | 0% | 0% | 0% | 0% | 100% | 0% | 13% | 87% | 0% | | | | | | |
| | APP/DEPART | 2 | / | 0 | 0 | / | 3 | 9 | / | 10 | 23 | / | 21 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 0 | 3 | 5 | 0 | 15 | | | | | |
| | APPROACH % | 50% | 0% | 50% | 0% | 0% | 0% | 0% | 100% | 0% | 38% | 63% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.500 | | | 0.000 | | | 0.625 | | | 0.500 | | 0.536 | | | | | |
| | APP/DEPART | 2 | / | 0 | 0 | / | 3 | 5 | / | 6 | 8 | / | 6 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 5 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 17% | 83% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 1 | 4 | / | 4 | 6 | / | 5 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 0 | 6 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 100% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 1.000 | | | 0.250 | | 0.500 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 4 | / | 4 | 2 | / | 2 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

| CLASS 3: | NOTES: | AM / PM / MD / OTHER / OTHER | ▲ N / ◄ W / E ► / S ▼ |
|---|---|---|---|
| 3-AXLE TRUCKS | | | |

| | | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 4 | 0 | 6 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 20% | 80% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 1 | 1 | / | 1 | 5 | / | 4 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 50% | 50% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.250 | | 0.250 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 1 | 0 | / | 0 | 2 | / | 1 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 100% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 1 | / | 1 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.250 | | | 0.000 | | 0.250 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |

**12th**

NORTH SIDE

**Lincoln** WEST SIDE EAST SIDE **Lincoln**

SOUTH SIDE

**12th**

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

**CLASS 4:** 4 OR MORE AXLE TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AM VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| AM APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| AM APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 2 | / | 2 | 0 | | | | | |
| AM BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| AM PEAK VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | | | | | |
| AM PEAK APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| AM PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.500 | | 0.500 | | | | | |
| AM PEAK APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 2 | / | 2 | 0 | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| PM APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| PM APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 3 | / | 3 | 0 | | | | | |
| PM BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| PM PEAK VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | | | | | |
| PM PEAK APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| PM PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.500 | | 0.500 | | | | | |
| PM PEAK APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 2 | / | 2 | 0 | | | | | |

**12th**

NORTH SIDE

**Lincoln** WEST SIDE EAST SIDE **Lincoln**

SOUTH SIDE

**12th**

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

| CLASS 5: | NOTES: |
|---|---|
| RV | |

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |

**12th**

NORTH SIDE

**Lincoln** WEST SIDE EAST SIDE **Lincoln**

SOUTH SIDE

**12th**

# INTERSECTION TURNING MOVEMENT COUNTS

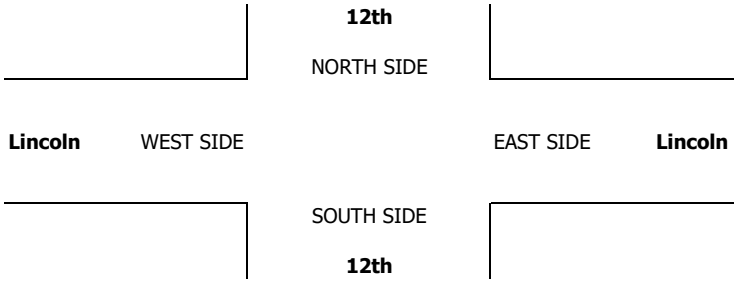
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

| CLASS 6: | NOTES: |
|---|---|
| BUSES | |

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| **AM** | | | | | | | | | | | | | | | | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| **PM** | | | | | | | | | | | | | | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |
| BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.250 | | | 0.000 | | 0.250 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Aug 15, 23

LOCATION: Banning
NORTH & SOUTH: 8th
EAST & WEST: Lincoln

PROJECT #: SC4158
LOCATION #: 2
CONTROL: STOP ALL

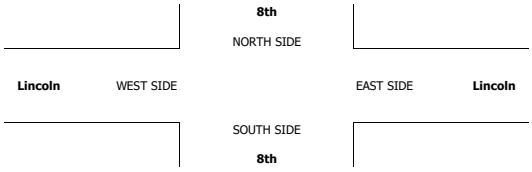
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N
◄ W
E ►
S ▼

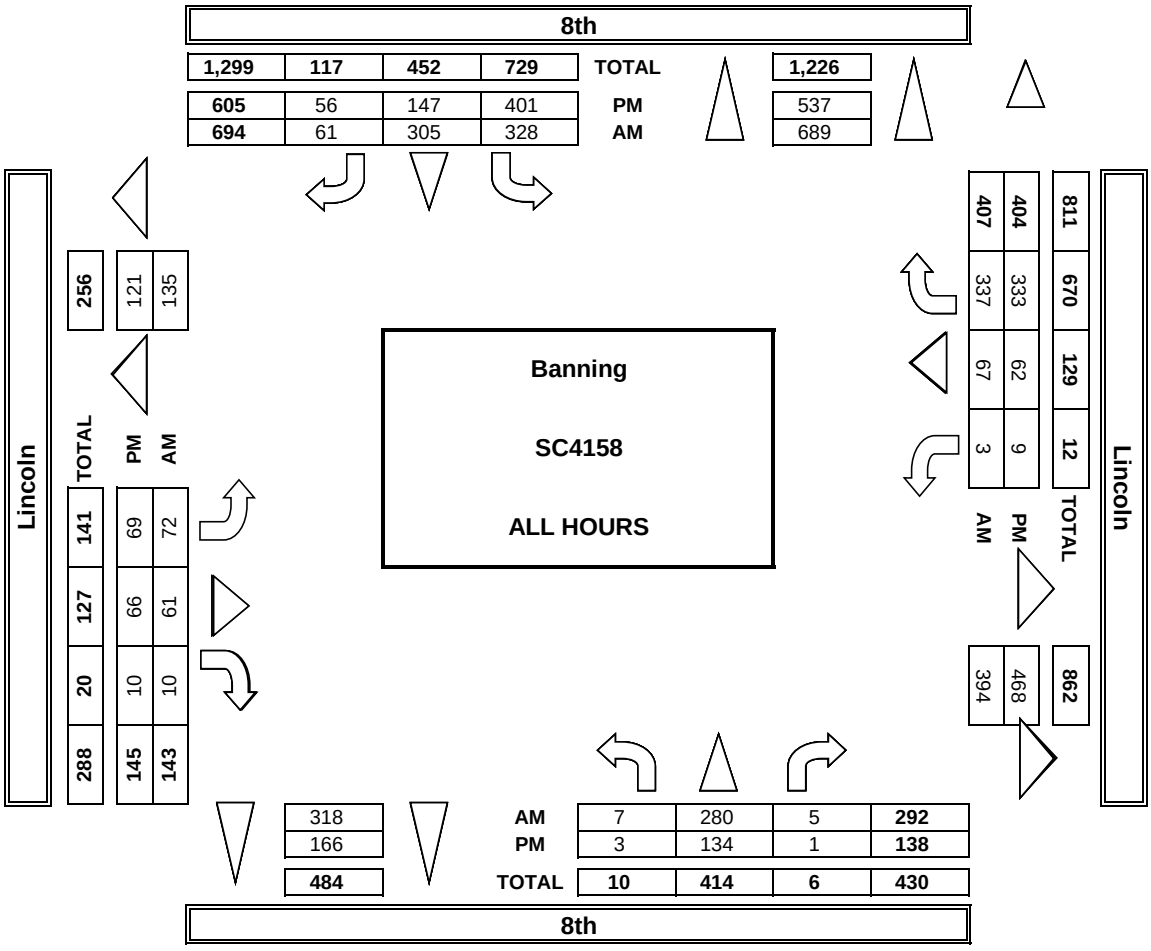
| | | NORTHBOUND (8th) | | | SOUTHBOUND (8th) | | | EASTBOUND (Lincoln) | | | WESTBOUND (Lincoln) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL |
| AM | 7:00 AM | 2 | 22 | 0 | 39 | 30 | 6 | 4 | 4 | 3 | 1 | 3 | 19 | 133 |
| | 7:15 AM | 2 | 25 | 0 | 35 | 26 | 9 | 10 | 5 | 3 | 1 | 6 | 41 | 163 |
| | 7:30 AM | 0 | 24 | 1 | 37 | 21 | 4 | 10 | 7 | 1 | 0 | 4 | 41 | 150 |
| | 7:45 AM | 1 | 35 | 0 | 49 | 42 | 5 | 7 | 9 | 1 | 0 | 10 | 42 | 201 |
| | 8:00 AM | 1 | 50 | 1 | 41 | 64 | 7 | 9 | 11 | 0 | 0 | 9 | 53 | 246 |
| | 8:15 AM | 1 | 76 | 1 | 39 | 82 | 9 | 10 | 13 | 0 | 0 | 16 | 54 | 301 |
| | 8:30 AM | 0 | 31 | 1 | 37 | 24 | 12 | 11 | 7 | 1 | 1 | 11 | 49 | 185 |
| | 8:45 AM | 0 | 17 | 1 | 51 | 16 | 9 | 11 | 5 | 1 | 0 | 8 | 38 | 157 |
| | VOLUMES | 7 | 280 | 5 | 328 | 305 | 61 | 72 | 61 | 10 | 3 | 67 | 337 | 1,536 |
| | APPROACH % | 2% | 96% | 2% | 47% | 44% | 9% | 50% | 43% | 7% | 1% | 16% | 83% | |
| | APP/DEPART | 292 | / | 689 | 694 | / | 318 | 143 | / | 394 | 407 | / | 135 | 0 |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | |
| | VOLUMES | 3 | 192 | 3 | 166 | 212 | 33 | 37 | 40 | 2 | 1 | 46 | 198 | 933 |
| | APPROACH % | 2% | 97% | 2% | 40% | 52% | 8% | 47% | 51% | 3% | 0% | 19% | 81% | |
| | PEAK HR FACTOR | | 0.635 | | | 0.790 | | | 0.859 | | | 0.875 | | 0.775 |
| | APP/DEPART | 198 | / | 427 | 411 | / | 215 | 79 | / | 209 | 245 | / | 82 | 0 |
| PM | 4:00 PM | 0 | 26 | 0 | 50 | 27 | 10 | 6 | 12 | 2 | 1 | 6 | 44 | 184 |
| | 4:15 PM | 0 | 23 | 0 | 48 | 18 | 11 | 6 | 9 | 1 | 0 | 9 | 42 | 167 |
| | 4:30 PM | 1 | 18 | 0 | 42 | 24 | 6 | 16 | 11 | 0 | 3 | 9 | 63 | 193 |
| | 4:45 PM | 1 | 13 | 0 | 51 | 17 | 4 | 9 | 4 | 1 | 1 | 7 | 37 | 145 |
| | 5:00 PM | 0 | 17 | 0 | 58 | 17 | 6 | 8 | 9 | 3 | 0 | 4 | 29 | 151 |
| | 5:15 PM | 0 | 9 | 1 | 58 | 14 | 5 | 3 | 6 | 1 | 2 | 11 | 50 | 160 |
| | 5:30 PM | 0 | 18 | 0 | 52 | 14 | 7 | 14 | 9 | 2 | 2 | 9 | 28 | 155 |
| | 5:45 PM | 1 | 10 | 0 | 42 | 16 | 7 | 7 | 6 | 0 | 0 | 7 | 40 | 136 |
| | VOLUMES | 3 | 134 | 1 | 401 | 147 | 56 | 69 | 66 | 10 | 9 | 62 | 333 | 1,292 |
| | APPROACH % | 2% | 97% | 1% | 66% | 24% | 9% | 48% | 46% | 7% | 2% | 15% | 82% | |
| | APP/DEPART | 138 | / | 537 | 605 | / | 166 | 145 | / | 468 | 404 | / | 121 | 0 |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | |
| | VOLUMES | 2 | 80 | 0 | 191 | 86 | 31 | 37 | 36 | 4 | 5 | 31 | 186 | 690 |
| | APPROACH % | 2% | 98% | 0% | 62% | 28% | 10% | 48% | 47% | 5% | 2% | 14% | 84% | |
| | PEAK HR FACTOR | | 0.788 | | | 0.888 | | | 0.713 | | | 0.740 | | 0.889 |
| | APP/DEPART | 82 | / | 304 | 309 | / | 95 | 77 | / | 227 | 222 | / | 64 | 0 |

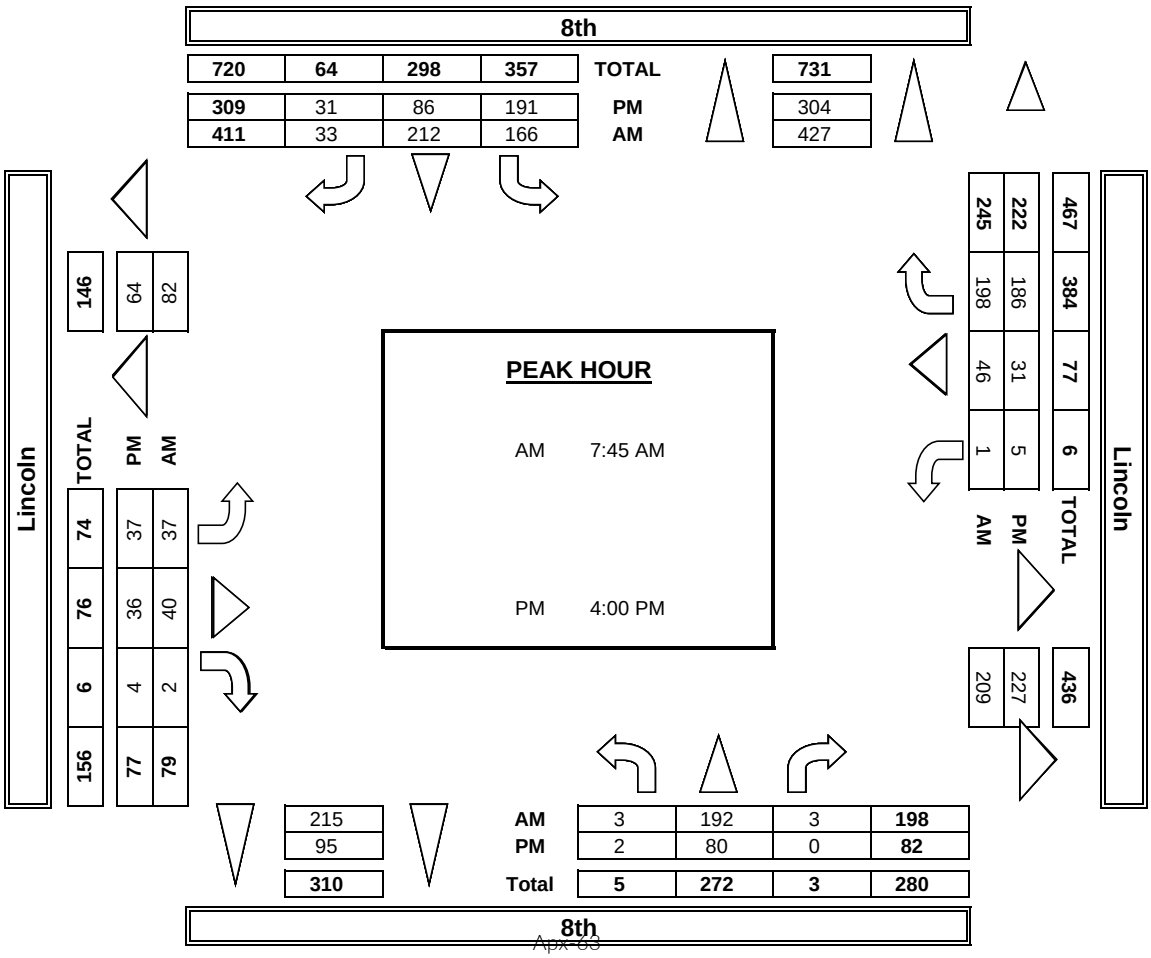
| U-TURNS | | | | |
|---|---|---|---|---|
| NB | SB | EB | WB | TTL |
| 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 1 |



**AimTD LLC**

TURNING MOVEMENT COUNTS



## INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| | NOTES: | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCE | Class | 1 | 2 | 3 | 4 | 5 | 6 | | | AM | | ▲ N | |
| Adjusted | Factor | 1 | 1.5 | 2 | 3 | 3 | 3 | | | PM MD | ◄ W | | E ► |
| | | | | | | | | | | OTHER | | S ▼ | |
| | | | | | | | | | | OTHER | | | |

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 2 | 22 | 0 | 47 | 34 | 7 | 6 | 6 | 3 | 1 | 4 | 19 | 149 | | | | | 0 |
| | 7:15 AM | 2 | 26 | 0 | 46 | 28 | 12 | 10 | 6 | 3 | 2 | 8 | 50 | 192 | | | | | 0 |
| | 7:30 AM | 0 | 25 | 1 | 44 | 21 | 5 | 11 | 7 | 1 | 0 | 5 | 46 | 164 | | | | | 0 |
| | 7:45 AM | 1 | 36 | 0 | 53 | 42 | 5 | 7 | 9 | 1 | 0 | 11 | 51 | 215 | | | | | 0 |
| | 8:00 AM | 1 | 51 | 1 | 47 | 65 | 8 | 11 | 12 | 0 | 0 | 9 | 61 | 264 | | | | | 0 |
| | 8:15 AM | 1 | 77 | 1 | 45 | 85 | 10 | 11 | 14 | 0 | 0 | 16 | 62 | 319 | | | | | 0 |
| | 8:30 AM | 0 | 31 | 1 | 41 | 24 | 15 | 13 | 8 | 1 | 1 | 15 | 57 | 206 | | | | | 0 |
| | 8:45 AM | 0 | 17 | 1 | 59 | 17 | 10 | 12 | 6 | 1 | 0 | 10 | 38 | 170 | | | | | 0 |
| | VOLUMES | 7 | 284 | 5 | 380 | 315 | 70 | 79 | 66 | 10 | 4 | 76 | 383 | 1,679 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 2% | 96% | 2% | 50% | 41% | 9% | 51% | 43% | 6% | 1% | 16% | 83% | | | | | | |
| | APP/DEPART | 296 | / | 746 | 765 | / | 329 | 155 | / | 451 | 463 | / | 153 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 | 1,004 | | | | | |
| | APPROACH % | 1% | 97% | 1% | 42% | 49% | 9% | 48% | 49% | 2% | 0% | 18% | 82% | | | | | | |
| | PEAK HR FACTOR | | 0.634 | | | 0.789 | | | 0.885 | | | 0.906 | | 0.786 | | | | | |
| | APP/DEPART | 201 | / | 465 | 437 | / | 218 | 85 | / | 230 | 281 | / | 91 | 0 | | | | | |
| PM | 4:00 PM | 0 | 26 | 0 | 59 | 27 | 10 | 6 | 14 | 2 | 1 | 7 | 50 | 201 | | | | | 0 |
| | 4:15 PM | 0 | 23 | 0 | 56 | 18 | 13 | 6 | 9 | 1 | 0 | 9 | 45 | 179 | | | | | 0 |
| | 4:30 PM | 1 | 18 | 0 | 46 | 24 | 7 | 17 | 11 | 0 | 3 | 12 | 64 | 202 | | | | | 0 |
| | 4:45 PM | 1 | 13 | 0 | 56 | 20 | 4 | 10 | 4 | 1 | 1 | 7 | 39 | 155 | | | | | 0 |
| | 5:00 PM | 0 | 17 | 0 | 64 | 17 | 8 | 9 | 9 | 3 | 0 | 6 | 29 | 162 | | | | | 0 |
| | 5:15 PM | 0 | 9 | 1 | 63 | 14 | 5 | 3 | 6 | 1 | 2 | 13 | 51 | 167 | | | | | 0 |
| | 5:30 PM | 0 | 18 | 0 | 58 | 14 | 7 | 14 | 9 | 2 | 4 | 9 | 29 | 164 | | | | | 0 |
| | 5:45 PM | 1 | 10 | 0 | 46 | 17 | 7 | 9 | 6 | 0 | 0 | 8 | 40 | 144 | | | | | 0 |
| | VOLUMES | 3 | 134 | 1 | 446 | 151 | 61 | 73 | 68 | 10 | 11 | 70 | 344 | 1,371 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 2% | 97% | 1% | 68% | 23% | 9% | 48% | 45% | 7% | 3% | 16% | 81% | | | | | | |
| | APP/DEPART | 138 | / | 551 | 658 | / | 172 | 151 | / | 515 | 425 | / | 133 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 | 736 | | | | | |
| | APPROACH % | 2% | 98% | 0% | 64% | 26% | 10% | 48% | 47% | 5% | 2% | 14% | 83% | | | | | | |
| | PEAK HR FACTOR | | 0.788 | | | 0.885 | | | 0.719 | | | 0.753 | | 0.913 | | | | | |
| | APP/DEPART | 82 | / | 315 | 338 | / | 98 | 81 | / | 254 | 235 | / | 70 | 0 | | | | | |

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

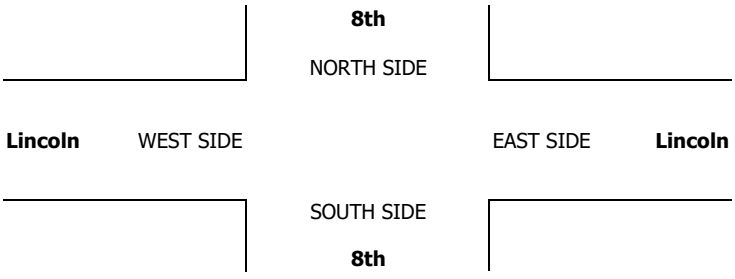
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 1:** PASSENGER VEHICLES

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 2 | 22 | 0 | 32 | 28 | 5 | 1 | 2 | 3 | 1 | 2 | 19 | 117 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 2 | 24 | 0 | 25 | 25 | 7 | 10 | 4 | 3 | 0 | 4 | 34 | 138 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 23 | 1 | 30 | 21 | 3 | 8 | 7 | 1 | 0 | 3 | 37 | 134 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 1 | 34 | 0 | 44 | 42 | 5 | 7 | 9 | 1 | 0 | 9 | 35 | 187 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 1 | 48 | 1 | 34 | 63 | 5 | 6 | 10 | 0 | 0 | 9 | 46 | 223 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 1 | 75 | 1 | 34 | 80 | 8 | 9 | 12 | 0 | 0 | 16 | 48 | 284 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 31 | 1 | 33 | 24 | 9 | 10 | 5 | 1 | 1 | 5 | 43 | 163 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 17 | 1 | 44 | 15 | 8 | 10 | 3 | 1 | 0 | 5 | 38 | 142 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 7 | 274 | 5 | 276 | 298 | 50 | 61 | 52 | 10 | 2 | 53 | 300 | 1,388 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 2% | 96% | 2% | 44% | 48% | 8% | 50% | 42% | 8% | 1% | 15% | 85% | | | | | | |
| | APP/DEPART | 286 | / | 635 | 624 | / | 310 | 123 | / | 333 | 355 | / | 110 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 3 | 188 | 3 | 145 | 209 | 27 | 32 | 36 | 2 | 1 | 39 | 172 | 857 | | | | | |
| | APPROACH % | 2% | 97% | 2% | 38% | 55% | 7% | 46% | 51% | 3% | 0% | 18% | 81% | | | | | | |
| | PEAK HR FACTOR | | 0.630 | | | 0.781 | | | 0.833 | | | 0.828 | | 0.754 | | | | | |
| | APP/DEPART | 194 | / | 392 | 381 | / | 212 | 70 | / | 184 | 212 | / | 69 | 0 | | | | | |
| PM | 4:00 PM | 0 | 26 | 0 | 42 | 27 | 10 | 6 | 11 | 2 | 1 | 5 | 39 | 169 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 23 | 0 | 42 | 18 | 10 | 6 | 9 | 1 | 0 | 9 | 40 | 158 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 1 | 18 | 0 | 37 | 24 | 5 | 15 | 11 | 0 | 3 | 7 | 62 | 183 | 0 | 1 | 0 | 0 | 1 |
| | 4:45 PM | 1 | 13 | 0 | 48 | 14 | 4 | 8 | 4 | 1 | 1 | 7 | 35 | 136 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 17 | 0 | 53 | 17 | 5 | 7 | 9 | 3 | 0 | 3 | 29 | 143 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 9 | 1 | 54 | 14 | 5 | 3 | 6 | 1 | 2 | 8 | 49 | 152 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 18 | 0 | 48 | 14 | 7 | 14 | 9 | 2 | 1 | 9 | 27 | 149 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 1 | 10 | 0 | 40 | 15 | 7 | 6 | 6 | 0 | 0 | 6 | 40 | 131 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 3 | 134 | 1 | 364 | 143 | 53 | 65 | 65 | 10 | 8 | 54 | 321 | 1,222 | 0 | 1 | 0 | 0 | 1 |
| | APPROACH % | 2% | 97% | 1% | 65% | 25% | 9% | 46% | 46% | 7% | 2% | 14% | 84% | | | | | | |
| | APP/DEPART | 138 | / | 521 | 561 | / | 161 | 140 | / | 430 | 383 | / | 110 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 2 | 80 | 0 | 169 | 83 | 29 | 35 | 35 | 4 | 5 | 28 | 176 | 647 | | | | | |
| | APPROACH % | 2% | 98% | 0% | 60% | 29% | 10% | 47% | 47% | 5% | 2% | 13% | 84% | | | | | | |
| | PEAK HR FACTOR | | 0.788 | | | 0.892 | | | 0.712 | | | 0.726 | | 0.879 | | | | | |
| | APP/DEPART | 82 | / | 292 | 282 | / | 92 | 74 | / | 204 | 209 | / | 59 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

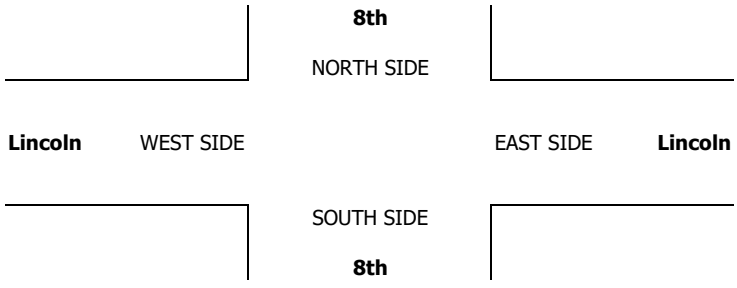
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 2:** 2-AXLE WORK VEHICLES/ TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 4 | 0 | 1 | 3 | 1 | 0 | 0 | 1 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 10 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 1 | 0 | 5 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 2 | 12 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 9 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 2 | 0 | 5 | 1 | 2 | 3 | 1 | 0 | 0 | 0 | 4 | 18 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 10 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 2 | 0 | 0 | 4 | 3 | 14 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 4 | 0 | 1 | 1 | 2 | 0 | 0 | 2 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 4 | 0 | 34 | 2 | 8 | 10 | 8 | 0 | 0 | 10 | 17 | 93 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 100% | 0% | 77% | 5% | 18% | 56% | 44% | 0% | 0% | 37% | 63% | | | | | | |
| | APP/DEPART | 4 | / | 31 | 44 | / | 2 | 18 | / | 42 | 27 | / | 18 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 3 | 0 | 15 | 2 | 5 | 4 | 4 | 0 | 0 | 5 | 13 | 51 | | | | | |
| | APPROACH % | 0% | 100% | 0% | 68% | 9% | 23% | 50% | 50% | 0% | 0% | 28% | 72% | | | | | | |
| | PEAK HR FACTOR | | 0.375 | | | 0.688 | | | 0.500 | | | 0.643 | | 0.708 | | | | | |
| | APP/DEPART | 3 | / | 20 | 22 | / | 2 | 8 | / | 19 | 18 | / | 10 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 9 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 7 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 4 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 16 | 2 | 1 | 2 | 0 | 0 | 0 | 5 | 8 | 34 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 84% | 11% | 5% | 100% | 0% | 0% | 0% | 38% | 62% | | | | | | |
| | APP/DEPART | 0 | / | 10 | 19 | / | 2 | 2 | / | 16 | 13 | / | 6 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 13 | 2 | 1 | 1 | 0 | 0 | 0 | 2 | 6 | 25 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 81% | 13% | 6% | 100% | 0% | 0% | 0% | 25% | 75% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.800 | | | 0.250 | | | 0.500 | | 0.694 | | | | | |
| | APP/DEPART | 0 | / | 7 | 16 | / | 2 | 1 | / | 13 | 8 | / | 3 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

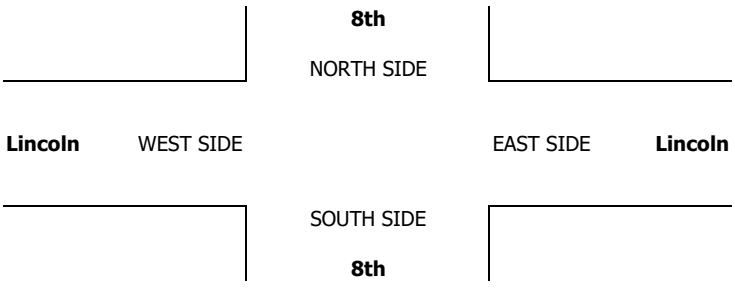
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 3:** 3-AXLE TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 6 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 2 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 4 | 3 | 14 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 100% | 0% | 33% | 33% | 33% | 0% | 100% | 0% | 13% | 50% | 38% | | | | | | |
| | APP/DEPART | 2 | / | 5 | 3 | / | 2 | 1 | / | 2 | 8 | / | 5 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 5 | | | | | |
| | APPROACH % | 0% | 100% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 67% | 33% | | | | | | |
| | PEAK HR FACTOR | | 0.250 | | | 0.250 | | | 0.000 | | | 0.375 | | 0.625 | | | | | |
| | APP/DEPART | 1 | / | 2 | 1 | / | 0 | 0 | / | 1 | 3 | / | 2 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 5 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 9 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 83% | 17% | 0% | 100% | 0% | 0% | 0% | 50% | 50% | | | | | | |
| | APP/DEPART | 0 | / | 2 | 6 | / | 1 | 1 | / | 5 | 2 | / | 1 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 100% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.250 | | | 0.250 | | 0.500 | | | | | |
| | APP/DEPART | 0 | / | 2 | 0 | / | 0 | 1 | / | 0 | 1 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 4:** 4 OR MORE AXLE TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| 7:00 AM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 6 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| AM VOLUMES | 0 | 0 | 0 | 13 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 13 | 29 | 0 | 0 | 0 | 0 | 0 |
| AM APPROACH % | 0% | 0% | 0% | 87% | 0% | 13% | 100% | 0% | 0% | 0% | 0% | 100% | | | | | | |
| AM APP/DEPART | 0 | / | 14 | 15 | / | 0 | 1 | / | 13 | 13 | / | 2 | 0 | | | | | |
| AM BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| AM VOLUMES | 0 | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 11 | 16 | | | | | |
| AM APPROACH % | 0% | 0% | 0% | 75% | 0% | 25% | 100% | 0% | 0% | 0% | 0% | 100% | | | | | | |
| AM PEAK HR FACTOR | | 0.000 | | | 0.500 | | | 0.250 | | | 0.917 | | 0.667 | | | | | |
| AM APP/DEPART | 0 | / | 12 | 4 | / | 0 | 1 | / | 3 | 11 | / | 1 | 0 | | | | | |
| 4:00 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| PM VOLUMES | 0 | 0 | 0 | 11 | 0 | 2 | 1 | 0 | 0 | 1 | 2 | 2 | 19 | 0 | 0 | 0 | 0 | 0 |
| PM APPROACH % | 0% | 0% | 0% | 85% | 0% | 15% | 100% | 0% | 0% | 20% | 40% | 40% | | | | | | |
| PM APP/DEPART | 0 | / | 3 | 13 | / | 1 | 1 | / | 11 | 5 | / | 4 | 0 | | | | | |
| PM BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| PM VOLUMES | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 10 | | | | | |
| PM APPROACH % | 0% | 0% | 0% | 86% | 0% | 14% | 0% | 0% | 0% | 0% | 33% | 67% | | | | | | |
| PM PEAK HR FACTOR | | 0.000 | | | 0.583 | | | 0.000 | | | 0.750 | | 0.625 | | | | | |
| PM APP/DEPART | 0 | / | 2 | 7 | / | 0 | 0 | / | 6 | 3 | / | 2 | 0 | | | | | |

**8th**

NORTH SIDE

**Lincoln** WEST SIDE EAST SIDE **Lincoln**

SOUTH SIDE

**8th**

# INTERSECTION TURNING MOVEMENT COUNTS

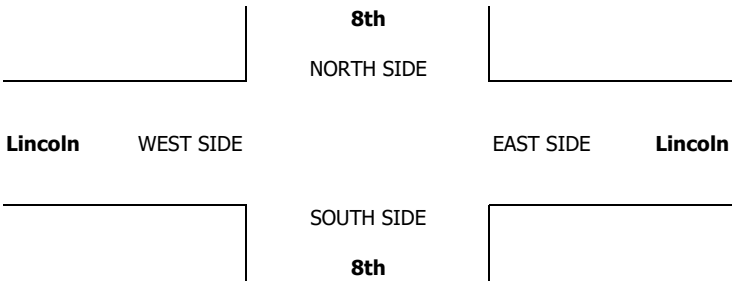
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| CLASS 5: | NOTES: |
|---|---|
| RV | |

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| CLASS 6: | NOTES: | AM / PM / MD / OTHER / OTHER |
|---|---|---|
| BUSES | | ▲ N ◄ W E ► S ▼ |

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 12 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 50% | 50% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | | | | | | |
| | APP/DEPART | 0 | / | 4 | 8 | / | 4 | 0 | / | 4 | 4 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 67% | 33% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.750 | | | 0.000 | | | 0.250 | | 0.500 | | | | | |
| | APP/DEPART | 0 | / | 1 | 3 | / | 1 | 0 | / | 2 | 1 | / | 0 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 83% | 17% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | | | | | | |
| | APP/DEPART | 0 | / | 1 | 6 | / | 1 | 1 | / | 6 | 1 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 6 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 75% | 25% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.500 | | | 0.250 | | | 0.250 | | 0.500 | | | | | |
| | APP/DEPART | 0 | / | 1 | 4 | / | 1 | 1 | / | 4 | 1 | / | 0 | 0 | | | | | |

**8th**

NORTH SIDE

**Lincoln** WEST SIDE EAST SIDE **Lincoln**

SOUTH SIDE

**8th**

# APPENDIX D

# LEVEL OF SERVICE WORKSHEETS

**EXISTING**

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro
Report File: G:\...\AME.pdf

Scenario 1 Existing AM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.124 | 8.0 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.008 | 9.8 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 0.978 | 33.6 | D |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.124 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Peak Hour Factor | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 14 | 2 | 12 | 12 | 3 | 5 | 9 | 2 | 2 | 15 | 10 |
| Total Analysis Volume [veh/h] | 14 | 57 | 9 | 46 | 49 | 11 | 20 | 37 | 10 | 7 | 59 | 40 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 696 | 743 | 665 | 746 | 811 | 854 |
| Degree of Utilization, x | 0.06 | 0.05 | 0.08 | 0.07 | 0.08 | 0.12 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.18 | 0.17 | 0.26 | 0.23 | 0.27 | 0.42 |
| 95th-Percentile Queue Length [ft] | 4.57 | 4.26 | 6.47 | 5.72 | 6.73 | 10.58 |
| Approach Delay [s/veh] | 8.00 | | 8.24 | | 7.84 | 7.81 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 7.99 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.008 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Peak Hour Factor | 0.8710 | 1.0000 | 0.8710 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.8710 | 0.8710 | 0.8710 | 0.8710 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 18 | 1 | 4 | 20 | 0 |
| Total Analysis Volume [veh/h] | 6 | 0 | 15 | 0 | 0 | 0 | 0 | 71 | 5 | 16 | 80 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.76 | 10.20 | 8.71 | 9.79 | 10.12 | 8.65 | 7.35 | 0.00 | 0.00 | 7.36 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.07 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 1.75 | 1.75 | 1.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.67 | 0.67 | 0.67 |
| d_A, Approach Delay [s/veh] | 9.01 | | | 9.52 | | | 0.00 | | | 1.23 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.59 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 33.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.978 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 62 | 1 | 59 | 68 | 12 | 13 | 13 | 1 | 0 | 16 | 73 |
| Total Analysis Volume [veh/h] | 4 | 248 | 4 | 235 | 274 | 48 | 52 | 53 | 3 | 1 | 65 | 293 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 489 | 520 | 603 | 433 | 481 | 532 |
| Degree of Utilization, x | 0.52 | 0.98 | 0.08 | 0.25 | 0.14 | 0.55 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 2.98 | 13.10 | 0.26 | 0.97 | 0.47 | 3.31 |
| 95th-Percentile Queue Length [ft] | 74.50 | 327.62 | 6.46 | 24.35 | 11.84 | 82.86 |
| Approach Delay [s/veh] | 18.11 | 55.57 | | 14.06 | 16.35 | |
| Approach LOS | C | F | | B | C | |
| Intersection Delay [s/veh] | 33.58 | | | | | |
| Intersection LOS | D | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro
Report File: G:\...\PME.pdf

Scenario 1 Existing PM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.093 | 7.8 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.006 | 9.5 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.552 | 12.4 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 7.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.093 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Peak Hour Factor | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 13 | 2 | 11 | 8 | 3 | 5 | 11 | 2 | 2 | 11 | 7 |
| Total Analysis Volume [veh/h] | 5 | 52 | 8 | 44 | 33 | 12 | 20 | 45 | 7 | 7 | 45 | 29 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 719 | 756 | 666 | 763 | 827 | 867 |
| Degree of Utilization, x | 0.05 | 0.04 | 0.07 | 0.06 | 0.09 | 0.09 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.14 | 0.13 | 0.21 | 0.19 | 0.29 | 0.31 |
| 95th-Percentile Queue Length [ft] | 3.55 | 3.36 | 5.35 | 4.63 | 7.13 | 7.71 |
| Approach Delay [s/veh] | 7.81 | | 8.10 | | 7.77 | 7.58 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 7.82 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.006 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Peak Hour Factor | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 19 | 1 | 2 | 18 | 0 |
| Total Analysis Volume [veh/h] | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 77 | 3 | 7 | 71 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.53 | 9.98 | 8.68 | 9.51 | 9.95 | 8.61 | 7.33 | 0.00 | 0.00 | 7.36 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.03 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 95th-Percentile Queue Length [ft/ln] | 0.70 | 0.70 | 0.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.29 | 0.29 | 0.29 |
| d_A, Approach Delay [s/veh] | 9.21 | | | 9.36 | | | 0.00 | | | 0.66 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.75 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 12.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.552 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 22 | 0 | 59 | 24 | 9 | 11 | 10 | 1 | 1 | 9 | 54 |
| Total Analysis Volume [veh/h] | 2 | 88 | 0 | 237 | 97 | 37 | 43 | 42 | 4 | 5 | 37 | 215 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 593 | 605 | 736 | 569 | 594 | 680 |
| Degree of Utilization, x | 0.15 | 0.55 | 0.05 | 0.16 | 0.07 | 0.32 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.53 | 3.37 | 0.16 | 0.55 | 0.23 | 1.36 |
| 95th-Percentile Queue Length [ft] | 13.31 | 84.16 | 3.96 | 13.79 | 5.69 | 33.89 |
| Approach Delay [s/veh] | 10.16 | 14.96 | | 10.50 | 10.23 | |
| Approach LOS | B | B | | B | B | |
| Intersection Delay [s/veh] | 12.43 | | | | | |
| Intersection LOS | B | | | | | |

# OPENING YEAR CONDITIONS (2025)

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro
Report File: G:\...\AMOY.pdf

Scenario 2 Opening Year Conditions AM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.128 | 8.0 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.008 | 9.8 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 1.032 | 39.7 | E |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.128 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 48 | 7 | 38 | 41 | 9 | 17 | 31 | 8 | 6 | 49 | 33 |
| Peak Hour Factor | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 15 | 2 | 12 | 13 | 3 | 5 | 10 | 2 | 2 | 15 | 10 |
| Total Analysis Volume [veh/h] | 14 | 60 | 9 | 47 | 51 | 11 | 21 | 39 | 10 | 7 | 61 | 41 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 694 | 740 | 663 | 742 | 807 | 850 |
| Degree of Utilization, x | 0.06 | 0.06 | 0.08 | 0.07 | 0.09 | 0.13 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.19 | 0.18 | 0.27 | 0.24 | 0.28 | 0.44 |
| 95th-Percentile Queue Length [ft] | 4.76 | 4.45 | 6.69 | 5.93 | 7.10 | 10.98 |
| Approach Delay [s/veh] | 8.04 | | 8.27 | | 7.89 | 7.86 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.03 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.008 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 5 | 0 | 14 | 0 | 0 | 0 | 0 | 65 | 4 | 15 | 73 | 0 |
| Peak Hour Factor | 0.8710 | 1.0000 | 0.8710 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.8710 | 0.8710 | 0.8710 | 0.8710 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 19 | 1 | 4 | 21 | 0 |
| Total Analysis Volume [veh/h] | 6 | 0 | 16 | 0 | 0 | 0 | 0 | 75 | 5 | 17 | 84 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.84 | 10.27 | 8.74 | 9.88 | 10.19 | 8.67 | 7.36 | 0.00 | 0.00 | 7.37 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.07 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 1.85 | 1.85 | 1.85 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.71 |
| d_A, Approach Delay [s/veh] | 9.04 | | | 9.58 | | | 0.00 | | | 1.24 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.60 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 39.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.032 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 203 | 3 | 192 | 224 | 40 | 43 | 44 | 2 | 1 | 53 | 239 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 71 | 13 | 14 | 14 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 258 | 4 | 244 | 285 | 51 | 55 | 56 | 3 | 1 | 67 | 304 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 491 | 529 | 592 | 437 | 481 | 531 |
| Degree of Utilization, x | 0.54 | 1.03 | 0.09 | 0.26 | 0.14 | 0.57 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.19 | 15.16 | 0.28 | 1.03 | 0.49 | 3.57 |
| 95th-Percentile Queue Length [ft] | 79.70 | 379.03 | 7.04 | 25.84 | 12.22 | 89.14 |
| Approach Delay [s/veh] | 18.68 | 68.88 | | 14.13 | 16.92 | |
| Approach LOS | C | F | | B | C | |
| Intersection Delay [s/veh] | 39.66 | | | | | |
| Intersection LOS | E | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro
Report File: G:\...\PMOY.pdf

Scenario 2 Opening Year Conditions PM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.099 | 7.9 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.006 | 9.6 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.581 | 13.0 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 7.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.099 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 46 | 7 | 38 | 29 | 10 | 18 | 40 | 6 | 6 | 40 | 25 |
| Peak Hour Factor | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 14 | 2 | 11 | 9 | 3 | 5 | 12 | 2 | 2 | 12 | 7 |
| Total Analysis Volume [veh/h] | 5 | 55 | 8 | 45 | 34 | 12 | 21 | 48 | 7 | 7 | 48 | 30 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 716 | 752 | 663 | 759 | 823 | 862 |
| Degree of Utilization, x | 0.05 | 0.05 | 0.07 | 0.06 | 0.09 | 0.10 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.15 | 0.14 | 0.22 | 0.19 | 0.30 | 0.33 |
| 95th-Percentile Queue Length [ft] | 3.73 | 3.55 | 5.51 | 4.77 | 7.61 | 8.17 |
| Approach Delay [s/veh] | 7.85 | | 8.14 | | 7.82 | 7.63 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 7.87 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.006 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 71 | 3 | 6 | 66 | 0 |
| Peak Hour Factor | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 1 | 2 | 19 | 0 |
| Total Analysis Volume [veh/h] | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 80 | 3 | 7 | 74 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.57 | 10.01 | 8.70 | 9.55 | 9.98 | 8.62 | 7.34 | 0.00 | 0.00 | 7.37 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | A | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.03 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 95th-Percentile Queue Length [ft/ln] | 0.71 | 0.71 | 0.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.29 | 0.29 | 0.29 |
| d_A, Approach Delay [s/veh] | 9.24 | | | 9.39 | | | 0.00 | | | 0.64 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.73 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 13.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.581 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 83 | 0 | 225 | 93 | 35 | 41 | 40 | 4 | 5 | 35 | 204 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 25 | 10 | 11 | 11 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 91 | 0 | 246 | 102 | 38 | 45 | 44 | 4 | 5 | 38 | 223 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 585 | 599 | 728 | 561 | 587 | 670 |
| Degree of Utilization, x | 0.16 | 0.58 | 0.05 | 0.17 | 0.07 | 0.33 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.56 | 3.72 | 0.17 | 0.59 | 0.24 | 1.46 |
| 95th-Percentile Queue Length [ft] | 14.06 | 92.92 | 4.13 | 14.76 | 5.91 | 36.43 |
| Approach Delay [s/veh] | 10.32 | 15.83 | | 10.69 | 10.50 | |
| Approach LOS | B | C | | B | B | |
| Intersection Delay [s/veh] | 12.96 | | | | | |
| Intersection LOS | B | | | | | |

# OPENING YEAR CONDITIONS WITH PROJECT (2025)

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro

Scenario 4 Opening Year Conditions With Project AM Peak Hour

Report File: G:\...\AMOYP.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.145 | 8.2 | A |
| 2 | Project West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | EB Left | 0.009 | 7.4 | A |
| 3 | Project Central-West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.4 | A |
| 4 | Project Central-East Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.4 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.007 | 10.0 | B |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 1.041 | 40.4 | E |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.2 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.145 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 48 | 7 | 53 | 41 | 9 | 17 | 31 | 8 | 6 | 49 | 44 |
| Peak Hour Factor | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 15 | 2 | 17 | 13 | 3 | 5 | 10 | 2 | 2 | 15 | 14 |
| Total Analysis Volume [veh/h] | 14 | 60 | 9 | 66 | 51 | 11 | 21 | 39 | 10 | 7 | 61 | 55 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 687 | 731 | 650 | 734 | 794 | 848 |
| Degree of Utilization, x | 0.06 | 0.06 | 0.10 | 0.08 | 0.09 | 0.15 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.19 | 0.18 | 0.34 | 0.28 | 0.29 | 0.51 |
| 95th-Percentile Queue Length [ft] | 4.82 | 4.51 | 8.43 | 6.90 | 7.22 | 12.65 |
| Approach Delay [s/veh] | 8.10 | | 8.47 | | 7.97 | 7.96 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.15 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Project West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 7.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.009 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 13 | 2 | 11 | 9 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 13 | 71 | 89 | 9 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 3 | 19 | 23 | 2 |
| Total Analysis Volume [veh/h] | 0 | 0 | 14 | 75 | 94 | 9 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.59 | 8.74 | 7.41 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.59 | 0.59 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.17 | | 1.17 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.54 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 3: Project Central-West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 3 | 2 | 0 | 17 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 3 | 2 | 69 | 95 | 1 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 1 | 1 | 18 | 25 | 0 |
| Total Analysis Volume [veh/h] | 1 | 3 | 2 | 73 | 100 | 1 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.43 | 8.77 | 7.40 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.33 | 0.33 | 0.08 | 0.08 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 8.93 | | 0.20 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.28 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Project Central-East Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 1 | 0 | 1 | 17 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 1 | 0 | 70 | 95 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 0 | 18 | 25 | 0 |
| Total Analysis Volume [veh/h] | 1 | 1 | 0 | 74 | 100 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.40 | 8.76 | 7.39 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.17 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.08 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.10 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 10.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.007 |

**Intersection Setup**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 5 | 0 | 7 | 0 | 2 | 0 | 0 | 10 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 5 | 0 | 14 | 5 | 0 | 7 | 0 | 67 | 4 | 15 | 83 | 0 |
| Peak Hour Factor | 0.8710 | 1.0000 | 0.8710 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.8710 | 0.8710 | 0.8710 | 0.8710 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 4 | 1 | 0 | 2 | 0 | 19 | 1 | 4 | 24 | 0 |
| Total Analysis Volume [veh/h] | 6 | 0 | 16 | 5 | 0 | 7 | 0 | 77 | 5 | 17 | 95 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 10.00 | 10.36 | 8.75 | 10.04 | 10.34 | 8.78 | 7.38 | 0.00 | 0.00 | 7.37 | 0.00 | 0.00 |
| Movement LOS | A | B | A | B | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.07 | 0.07 | 0.07 | 0.04 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 1.87 | 1.87 | 1.87 | 1.08 | 1.08 | 1.08 | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.71 |
| d_A, Approach Delay [s/veh] | 9.09 | | | 9.31 | | | 0.00 | | | 1.12 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.92 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 40.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.041 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 10 | 7 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 203 | 3 | 192 | 224 | 50 | 50 | 44 | 2 | 1 | 53 | 239 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 71 | 16 | 16 | 14 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 258 | 4 | 244 | 285 | 64 | 64 | 56 | 3 | 1 | 67 | 304 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 487 | 529 | 587 | 436 | 478 | 528 |
| Degree of Utilization, x | 0.55 | 1.04 | 0.11 | 0.28 | 0.14 | 0.58 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.24 | 15.44 | 0.37 | 1.15 | 0.49 | 3.62 |
| 95th-Percentile Queue Length [ft] | 80.92 | 386.09 | 9.13 | 28.70 | 12.32 | 90.41 |
| Approach Delay [s/veh] | 18.96 | 70.01 | | 14.50 | 17.14 | |
| Approach LOS | C | F | | B | C | |
| Intersection Delay [s/veh] | 40.41 | | | | | |
| Intersection LOS | E | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro

Scenario 4 Opening Year Conditions With Project PM Peak Hour

Report File: G:\...\PMOYP.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.105 | 7.9 | A |
| 2 | Project West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | EB Left | 0.003 | 7.4 | A |
| 3 | Project Central-West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.3 | A |
| 4 | Project Central-East Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | WB Thru | 0.001 | 0.0 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.006 | 9.6 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.582 | 13.0 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 7.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.105 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 46 | 7 | 43 | 29 | 10 | 18 | 40 | 6 | 6 | 40 | 30 |
| Peak Hour Factor | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 14 | 2 | 13 | 9 | 3 | 5 | 12 | 2 | 2 | 12 | 9 |
| Total Analysis Volume [veh/h] | 5 | 55 | 8 | 51 | 34 | 12 | 21 | 48 | 7 | 7 | 48 | 36 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 713 | 749 | 661 | 756 | 819 | 865 |
| Degree of Utilization, x | 0.05 | 0.05 | 0.08 | 0.06 | 0.09 | 0.11 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.15 | 0.14 | 0.25 | 0.19 | 0.31 | 0.35 |
| 95th-Percentile Queue Length [ft] | 3.75 | 3.56 | 6.25 | 4.85 | 7.65 | 8.79 |
| Approach Delay [s/veh] | 7.87 | | 8.21 | | 7.85 | 7.65 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 7.90 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Project West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 7.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.003 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 5 | 0 | 5 | 4 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 5 | 74 | 75 | 4 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 1 | 19 | 20 | 1 |
| Total Analysis Volume [veh/h] | 0 | 0 | 5 | 78 | 79 | 4 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.37 | 8.66 | 7.36 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.21 | 0.21 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.02 | | 0.44 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.22 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 3: Project Central-West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 3 | 0 | 0 | 6 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 3 | 0 | 74 | 76 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 1 | 0 | 19 | 20 | 0 |
| Total Analysis Volume [veh/h] | 1 | 3 | 0 | 78 | 80 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.31 | 8.67 | 7.35 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.32 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 8.83 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.22 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 4: Project Central-East Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 0.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 1 | 6 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 0 | 75 | 76 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 0 | 20 | 20 | 0 |
| Total Analysis Volume [veh/h] | 0 | 0 | 0 | 79 | 80 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.30 | 8.65 | 7.35 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 8.98 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.00 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.006 |

**Intersection Setup**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 4 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 0 | 3 | 1 | 0 | 2 | 0 | 72 | 3 | 6 | 70 | 0 |
| Peak Hour Factor | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 20 | 1 | 2 | 20 | 0 |
| Total Analysis Volume [veh/h] | 5 | 0 | 3 | 1 | 0 | 2 | 0 | 81 | 3 | 7 | 79 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.63 | 10.05 | 8.70 | 9.61 | 10.04 | 8.66 | 7.35 | 0.00 | 0.00 | 7.37 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.03 | 0.03 | 0.03 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 95th-Percentile Queue Length [ft/ln] | 0.71 | 0.71 | 0.71 | 0.25 | 0.25 | 0.25 | 0.00 | 0.00 | 0.00 | 0.29 | 0.29 | 0.29 |
| d_A, Approach Delay [s/veh] | 9.28 | | | 8.98 | | | 0.00 | | | 0.60 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.84 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 13.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.582 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 83 | 0 | 225 | 93 | 39 | 43 | 40 | 4 | 5 | 35 | 204 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 25 | 11 | 12 | 11 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 91 | 0 | 246 | 102 | 43 | 47 | 44 | 4 | 5 | 38 | 223 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 584 | 599 | 726 | 560 | 586 | 669 |
| Degree of Utilization, x | 0.16 | 0.58 | 0.06 | 0.17 | 0.07 | 0.33 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.56 | 3.73 | 0.19 | 0.61 | 0.24 | 1.46 |
| 95th-Percentile Queue Length [ft] | 14.10 | 93.19 | 4.71 | 15.17 | 5.92 | 36.57 |
| Approach Delay [s/veh] | 10.34 | 15.78 | | 10.74 | 10.53 | |
| Approach LOS | B | C | | B | B | |
| Intersection Delay [s/veh] | 12.96 | | | | | |
| Intersection LOS | B | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro

Scenario 5 Opening Year Conditions With Project AM Peak Hour - With Improvements

Report File: G:\...\AMOYPI.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 0.643 | 17.6 | C |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 17.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.643 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 10 | 7 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 203 | 3 | 192 | 224 | 50 | 50 | 44 | 2 | 1 | 53 | 239 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 71 | 16 | 16 | 14 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 258 | 4 | 244 | 285 | 64 | 64 | 56 | 3 | 1 | 67 | 304 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 501 | 495 | 543 | 451 | 490 | 543 |
| Degree of Utilization, x | 0.53 | 0.49 | 0.64 | 0.27 | 0.14 | 0.56 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.07 | 2.68 | 4.55 | 1.10 | 0.48 | 3.42 |
| 95th-Percentile Queue Length [ft] | 76.65 | 67.10 | 113.63 | 27.39 | 11.98 | 85.52 |
| Approach Delay [s/veh] | 17.98 | 18.98 | | 13.95 | 16.29 | |
| Approach LOS | C | C | | B | C | |
| Intersection Delay [s/veh] | 17.59 | | | | | |
| Intersection LOS | C | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro

Scenario 5 Opening Year Conditions With Project PM Peak Hour - With Improvements

Report File: G:\...\PMOYPI.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.420 | 11.1 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 11.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.420 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 83 | 0 | 225 | 93 | 39 | 43 | 40 | 4 | 5 | 35 | 204 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 25 | 11 | 12 | 11 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 91 | 0 | 246 | 102 | 43 | 47 | 44 | 4 | 5 | 38 | 223 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 591 | 586 | 662 | 572 | 594 | 680 |
| Degree of Utilization, x | 0.16 | 0.42 | 0.22 | 0.17 | 0.07 | 0.33 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.55 | 2.07 | 0.83 | 0.59 | 0.23 | 1.43 |
| 95th-Percentile Queue Length [ft] | 13.87 | 51.79 | 20.76 | 14.81 | 5.84 | 35.77 |
| Approach Delay [s/veh] | 10.22 | 11.90 | | 10.55 | 10.35 | |
| Approach LOS | B | B | | B | B | |
| Intersection Delay [s/veh] | 11.08 | | | | | |
| Intersection LOS | B | | | | | |

# CUMULATIVE CONDITIONS (2025)

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro
Report File: G:\...\AMCUM.pdf

Scenario 6 Cumulative Conditions AM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.144 | 8.3 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.008 | 10.1 | B |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 1.052 | 41.5 | E |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.144 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 26 | 1 | 1 | 1 | 5 | 0 | 0 | 1 | 8 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 49 | 7 | 64 | 42 | 10 | 18 | 36 | 8 | 6 | 50 | 41 |
| Peak Hour Factor | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 15 | 2 | 20 | 13 | 3 | 6 | 11 | 2 | 2 | 16 | 13 |
| Total Analysis Volume [veh/h] | 14 | 61 | 9 | 80 | 52 | 12 | 22 | 45 | 10 | 7 | 62 | 51 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 682 | 726 | 649 | 732 | 786 | 835 |
| Degree of Utilization, x | 0.06 | 0.06 | 0.12 | 0.09 | 0.10 | 0.14 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.20 | 0.18 | 0.42 | 0.29 | 0.32 | 0.50 |
| 95th-Percentile Queue Length [ft] | 4.91 | 4.60 | 10.49 | 7.16 | 8.11 | 12.52 |
| Approach Delay [s/veh] | 8.15 | | 8.61 | | 8.08 | 8.03 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.26 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 10.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.008 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 21 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 5 | 0 | 14 | 0 | 0 | 0 | 0 | 74 | 4 | 15 | 94 | 0 |
| Peak Hour Factor | 0.8710 | 1.0000 | 0.8710 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.8710 | 0.8710 | 0.8710 | 0.8710 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 21 | 1 | 4 | 27 | 0 |
| Total Analysis Volume [veh/h] | 6 | 0 | 16 | 0 | 0 | 0 | 0 | 85 | 5 | 17 | 108 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 10.09 | 10.51 | 8.79 | 10.14 | 10.43 | 8.78 | 7.41 | 0.00 | 0.00 | 7.39 | 0.00 | 0.00 |
| Movement LOS | B | B | A | B | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.08 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 1.90 | 1.90 | 1.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.71 |
| d_A, Approach Delay [s/veh] | 9.15 | | | 9.78 | | | 0.00 | | | 1.01 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.38 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 41.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.052 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 19 | 6 | 3 | 0 | 0 | 2 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 204 | 3 | 193 | 225 | 59 | 49 | 47 | 2 | 1 | 55 | 240 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 72 | 19 | 16 | 15 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 260 | 4 | 246 | 286 | 75 | 62 | 60 | 3 | 1 | 70 | 305 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 485 | 532 | 583 | 435 | 476 | 525 |
| Degree of Utilization, x | 0.55 | 1.05 | 0.13 | 0.29 | 0.15 | 0.58 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.31 | 15.86 | 0.44 | 1.18 | 0.52 | 3.67 |
| 95th-Percentile Queue Length [ft] | 82.64 | 396.61 | 10.99 | 29.43 | 13.00 | 91.64 |
| Approach Delay [s/veh] | 19.22 | 71.98 | | 14.61 | 17.28 | |
| Approach LOS | C | F | | B | C | |
| Intersection Delay [s/veh] | 41.55 | | | | | |
| Intersection LOS | E | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro
Report File: G:\...\PMCUM.pdf

Scenario 6 Cumulative Conditions PM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.137 | 8.0 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.007 | 9.8 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.597 | 13.3 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.137 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 11 | 1 | 1 | 1 | 2 | 0 | 0 | 5 | 25 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 47 | 7 | 49 | 30 | 11 | 19 | 42 | 6 | 6 | 45 | 50 |
| Peak Hour Factor | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 14 | 2 | 15 | 9 | 3 | 6 | 12 | 2 | 2 | 13 | 15 |
| Total Analysis Volume [veh/h] | 5 | 56 | 8 | 58 | 36 | 13 | 23 | 50 | 7 | 7 | 53 | 59 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 701 | 735 | 652 | 745 | 806 | 870 |
| Degree of Utilization, x | 0.05 | 0.05 | 0.09 | 0.07 | 0.10 | 0.14 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.15 | 0.15 | 0.29 | 0.21 | 0.33 | 0.47 |
| 95th-Percentile Queue Length [ft] | 3.87 | 3.69 | 7.30 | 5.27 | 8.23 | 11.83 |
| Approach Delay [s/veh] | 7.97 | | 8.36 | | 7.96 | 7.80 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.02 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.007 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 11 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 92 | 3 | 6 | 77 | 0 |
| Peak Hour Factor | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 26 | 1 | 2 | 22 | 0 |
| Total Analysis Volume [veh/h] | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 104 | 3 | 7 | 87 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.83 | 10.26 | 8.82 | 9.81 | 10.22 | 8.68 | 7.37 | 0.00 | 0.00 | 7.41 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.03 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 95th-Percentile Queue Length [ft/ln] | 0.74 | 0.74 | 0.74 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.29 | 0.29 | 0.29 |
| d_A, Approach Delay [s/veh] | 9.45 | | | 9.57 | | | 0.00 | | | 0.55 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.61 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 13.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.597 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 8 | 19 | 2 | 0 | 0 | 3 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 84 | 0 | 226 | 94 | 43 | 60 | 42 | 4 | 5 | 38 | 205 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 26 | 12 | 16 | 12 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 92 | 0 | 248 | 103 | 47 | 66 | 46 | 4 | 5 | 42 | 225 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 571 | 589 | 712 | 553 | 578 | 658 |
| Degree of Utilization, x | 0.16 | 0.60 | 0.07 | 0.21 | 0.08 | 0.34 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.59 | 3.92 | 0.21 | 0.78 | 0.26 | 1.52 |
| 95th-Percentile Queue Length [ft] | 14.63 | 97.96 | 5.29 | 19.62 | 6.61 | 37.91 |
| Approach Delay [s/veh] | 10.54 | 16.35 | | 11.23 | 10.73 | |
| Approach LOS | B | C | | B | B | |
| Intersection Delay [s/veh] | 13.32 | | | | | |
| Intersection LOS | B | | | | | |

# CUMULATIVE CONDITIONS WITH PROJECT (2025)

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro

Scenario 8 Cumulative Conditions With Project AM Peak Hour

Report File: G:\...\AMCUMW.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.161 | 8.4 | A |
| 2 | Project West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | EB Left | 0.009 | 7.5 | A |
| 3 | Project Central-West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.6 | A |
| 4 | Project Central-East Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.6 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.007 | 10.3 | B |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 1.061 | 42.3 | E |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.161 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 41 | 1 | 1 | 1 | 5 | 0 | 0 | 1 | 19 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 49 | 7 | 79 | 42 | 10 | 18 | 36 | 8 | 6 | 50 | 52 |
| Peak Hour Factor | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 15 | 2 | 25 | 13 | 3 | 6 | 11 | 2 | 2 | 16 | 16 |
| Total Analysis Volume [veh/h] | 14 | 61 | 9 | 99 | 52 | 12 | 22 | 45 | 10 | 7 | 62 | 65 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 674 | 717 | 644 | 726 | 775 | 832 |
| Degree of Utilization, x | 0.06 | 0.06 | 0.15 | 0.09 | 0.10 | 0.16 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.20 | 0.19 | 0.54 | 0.29 | 0.33 | 0.57 |
| 95th-Percentile Queue Length [ft] | 4.97 | 4.66 | 13.51 | 7.22 | 8.25 | 14.31 |
| Approach Delay [s/veh] | 8.21 | | 8.84 | | 8.16 | 8.16 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.41 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Project West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 7.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.009 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 13 | 11 | 32 | 9 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 13 | 80 | 110 | 9 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 3 | 21 | 29 | 2 |
| Total Analysis Volume [veh/h] | 0 | 0 | 14 | 84 | 116 | 9 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.78 | 8.84 | 7.46 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.59 | 0.59 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.31 | | 1.07 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.47 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 3: Project Central-West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 3 | 2 | 9 | 38 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 3 | 2 | 78 | 116 | 1 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 1 | 1 | 21 | 31 | 0 |
| Total Analysis Volume [veh/h] | 1 | 3 | 2 | 82 | 122 | 1 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.61 | 8.87 | 7.44 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.34 | 0.34 | 0.08 | 0.08 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.06 | | 0.18 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.24 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 4: Project Central-East Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 1 | 0 | 10 | 38 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 1 | 0 | 79 | 116 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 0 | 21 | 31 | 0 |
| Total Analysis Volume [veh/h] | 1 | 1 | 0 | 83 | 122 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.58 | 8.86 | 7.44 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.18 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.22 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.09 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 10.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.007 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 5 | 0 | 7 | 0 | 11 | 0 | 0 | 31 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 5 | 0 | 14 | 5 | 0 | 7 | 0 | 76 | 4 | 15 | 104 | 0 |
| Peak Hour Factor | 0.8710 | 1.0000 | 0.8710 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.8710 | 0.8710 | 0.8710 | 0.8710 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 4 | 1 | 0 | 2 | 0 | 22 | 1 | 4 | 30 | 0 |
| Total Analysis Volume [veh/h] | 6 | 0 | 16 | 5 | 0 | 7 | 0 | 87 | 5 | 17 | 119 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 10.26 | 10.60 | 8.80 | 10.31 | 10.58 | 8.90 | 7.43 | 0.00 | 0.00 | 7.39 | 0.00 | 0.00 |
| Movement LOS | B | B | A | B | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.08 | 0.08 | 0.08 | 0.04 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 1.92 | 1.92 | 1.92 | 1.12 | 1.12 | 1.12 | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.71 |
| d_A, Approach Delay [s/veh] | 9.20 | | | 9.49 | | | 0.00 | | | 0.92 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.69 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 42.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.061 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 29 | 13 | 3 | 0 | 0 | 2 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 204 | 3 | 193 | 225 | 69 | 56 | 47 | 2 | 1 | 55 | 240 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 72 | 22 | 18 | 15 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 260 | 4 | 246 | 286 | 88 | 71 | 60 | 3 | 1 | 70 | 305 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 481 | 532 | 578 | 433 | 473 | 522 |
| Degree of Utilization, x | 0.56 | 1.06 | 0.15 | 0.31 | 0.15 | 0.58 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.36 | 16.15 | 0.53 | 1.30 | 0.52 | 3.72 |
| 95th-Percentile Queue Length [ft] | 83.92 | 403.86 | 13.35 | 32.50 | 13.10 | 92.94 |
| Approach Delay [s/veh] | 19.52 | 73.19 | | 15.00 | 17.51 | |
| Approach LOS | C | F | | C | C | |
| Intersection Delay [s/veh] | 42.35 | | | | | |
| Intersection LOS | E | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro

Scenario 8 Cumulative Conditions With Project PM Peak Hour

Report File: G:\...\PMCUMW.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.144 | 8.1 | A |
| 2 | Project West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | EB Left | 0.003 | 7.4 | A |
| 3 | Project Central-West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.5 | A |
| 4 | Project Central-East Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | EB Thru | 0.001 | 0.0 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.007 | 9.9 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.597 | 13.3 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.144 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 16 | 1 | 1 | 1 | 2 | 0 | 0 | 5 | 30 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 47 | 7 | 54 | 30 | 11 | 19 | 42 | 6 | 6 | 45 | 55 |
| Peak Hour Factor | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 14 | 2 | 16 | 9 | 3 | 6 | 12 | 2 | 2 | 13 | 16 |
| Total Analysis Volume [veh/h] | 5 | 56 | 8 | 64 | 36 | 13 | 23 | 50 | 7 | 7 | 53 | 65 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 698 | 732 | 649 | 742 | 802 | 869 |
| Degree of Utilization, x | 0.05 | 0.05 | 0.10 | 0.07 | 0.10 | 0.14 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.16 | 0.15 | 0.33 | 0.21 | 0.33 | 0.50 |
| 95th-Percentile Queue Length [ft] | 3.89 | 3.71 | 8.16 | 5.29 | 8.28 | 12.53 |
| Approach Delay [s/veh] | 7.99 | | 8.43 | | 7.99 | 7.84 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.07 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Project West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 7.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.003 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 5 | 21 | 16 | 4 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 5 | 95 | 86 | 4 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 1 | 25 | 23 | 1 |
| Total Analysis Volume [veh/h] | 0 | 0 | 5 | 100 | 91 | 4 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.57 | 8.71 | 7.39 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.21 | 0.21 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.14 | | 0.35 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.18 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 3: Project Central-West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 3 | 0 | 21 | 17 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 3 | 0 | 95 | 87 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 1 | 0 | 25 | 23 | 0 |
| Total Analysis Volume [veh/h] | 1 | 3 | 0 | 100 | 92 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.51 | 8.73 | 7.38 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.33 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 8.92 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.18 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 4: Project Central-East Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 0.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 22 | 17 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 0 | 96 | 87 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 0 | 25 | 23 | 0 |
| Total Analysis Volume [veh/h] | 0 | 0 | 0 | 101 | 92 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.50 | 8.71 | 7.38 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.10 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.00 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.007 |

**Intersection Setup**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 22 | 0 | 0 | 15 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 0 | 3 | 1 | 0 | 2 | 0 | 93 | 3 | 6 | 81 | 0 |
| Peak Hour Factor | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 26 | 1 | 2 | 23 | 0 |
| Total Analysis Volume [veh/h] | 5 | 0 | 3 | 1 | 0 | 2 | 0 | 105 | 3 | 7 | 91 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.89 | 10.29 | 8.82 | 9.86 | 10.27 | 8.72 | 7.37 | 0.00 | 0.00 | 7.42 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.03 | 0.03 | 0.03 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 95th-Percentile Queue Length [ft/ln] | 0.75 | 0.75 | 0.75 | 0.26 | 0.26 | 0.26 | 0.00 | 0.00 | 0.00 | 0.29 | 0.29 | 0.29 |
| d_A, Approach Delay [s/veh] | 9.49 | | | 9.10 | | | 0.00 | | | 0.53 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.71 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 13.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.597 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 12 | 21 | 2 | 0 | 0 | 3 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 84 | 0 | 226 | 94 | 47 | 62 | 42 | 4 | 5 | 38 | 205 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 26 | 13 | 17 | 12 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 92 | 0 | 248 | 103 | 51 | 68 | 46 | 4 | 5 | 42 | 225 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 570 | 588 | 710 | 552 | 577 | 657 |
| Degree of Utilization, x | 0.16 | 0.60 | 0.07 | 0.21 | 0.08 | 0.34 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.59 | 3.93 | 0.23 | 0.80 | 0.27 | 1.52 |
| 95th-Percentile Queue Length [ft] | 14.66 | 98.24 | 5.78 | 20.08 | 6.63 | 38.04 |
| Approach Delay [s/veh] | 10.56 | 16.32 | | 11.28 | 10.75 | |
| Approach LOS | B | C | | B | B | |
| Intersection Delay [s/veh] | 13.33 | | | | | |
| Intersection LOS | B | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro

Scenario 9 Cumulative Conditions With Project AM Peak Hour - With Improvements

Report File: G:\...\AMCUMWI.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 0.696 | 18.8 | C |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 18.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.696 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 29 | 13 | 3 | 0 | 0 | 2 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 204 | 3 | 193 | 225 | 69 | 56 | 47 | 2 | 1 | 55 | 240 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 72 | 22 | 18 | 15 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 260 | 4 | 246 | 286 | 88 | 71 | 60 | 3 | 1 | 70 | 305 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 491 | 488 | 537 | 444 | 481 | 533 |
| Degree of Utilization, x | 0.54 | 0.50 | 0.70 | 0.30 | 0.15 | 0.57 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.22 | 2.79 | 5.43 | 1.26 | 0.51 | 3.57 |
| 95th-Percentile Queue Length [ft] | 80.49 | 69.79 | 135.69 | 31.40 | 12.85 | 89.28 |
| Approach Delay [s/veh] | 18.73 | 20.95 | | 14.57 | 16.87 | |
| Approach LOS | C | C | | B | C | |
| Intersection Delay [s/veh] | 18.82 | | | | | |
| Intersection LOS | C | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro

Scenario 9 Cumulative Conditions With Project PM Peak Hour - With Improvements

Report File: G:\...\PMCUMWI.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.431 | 11.4 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 11.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.431 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 12 | 21 | 2 | 0 | 0 | 3 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 84 | 0 | 226 | 94 | 47 | 62 | 42 | 4 | 5 | 38 | 205 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 26 | 13 | 17 | 12 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 92 | 0 | 248 | 103 | 51 | 68 | 46 | 4 | 5 | 42 | 225 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 578 | 575 | 652 | 564 | 585 | 668 |
| Degree of Utilization, x | 0.16 | 0.43 | 0.24 | 0.21 | 0.08 | 0.34 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.58 | 2.16 | 0.91 | 0.78 | 0.26 | 1.49 |
| 95th-Percentile Queue Length [ft] | 14.42 | 53.94 | 22.84 | 19.57 | 6.53 | 37.14 |
| Approach Delay [s/veh] | 10.43 | 12.19 | | 11.07 | 10.57 | |
| Approach LOS | B | B | | B | B | |
| Intersection Delay [s/veh] | 11.36 | | | | | |
| Intersection LOS | B | | | | | |

# APPENDIX E

# EXISTING FACILITY TRIP GENERATION WORKSHEETS

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 7:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 37 | 6 | 1 | 21 | 0 | 0 | 65 | TOTAL | 18 | 1 | 0 | 11 | 0 | 0 | 30 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 27 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 8 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 55 | 7 | 1 | 32 | 0 | 0 | 95 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 57.9% | 7.4% | 1.1% | 33.7% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 111 | 16 | 2 | 65 | 0 | 0 | 194 |
| CLASS 6 | Buses | % OF TOTAL | 57.2% | 8.2% | 1.0% | 33.5% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:15 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 13:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 15 | 0 | 0 | 1 | 0 | 0 | 16 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 1 | 4 | 0 | 0 | 5 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 20:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 21:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 25 | 5 | 1 | 21 | 0 | 0 | 52 | TOTAL | 31 | 4 | 0 | 12 | 0 | 0 | 47 |
| | | | | AM PEAK HOUR | | | 1:15 AM | | | | | AM PEAK HOUR | | | 2:00 PM |
| | | | | AM PEAK VOLUME | | | 10 | | | | | AM PEAK VOLUME | | | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 56 | 9 | 1 | 33 | 0 | 0 | 99 |
| % OF TOTAL | 56.6% | 9.1% | 1.0% | 33.3% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | BUS |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | | PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 2 | 0 | 0 | 4 |
| 1:15 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:15 | 1 | 0 | 0 | 4 | 0 | 0 | 5 |
| 1:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 13:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:45 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:45 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 17 | 0 | 0 | 1 | 0 | 0 | 18 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 4 | 0 | 0 | 1 | 0 | 0 | 5 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 4 | 1 | 0 | 0 | 0 | 0 | 5 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 | 7 | 0 | 0 | 2 | 0 | 0 | 9 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 1 | 0 | 0 | 5 | 0 | 0 | 6 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 1 | 6 | 0 | 0 | 7 | 17:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 5:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 17:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 1 | 0 | 0 | 3 | 0 | 0 | 4 | 18:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 6:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 7:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 20:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 2 | 0 | 3 | 0 | 0 | 6 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:15 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 21:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 9:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 2 | 0 | 1 | 0 | 0 | 5 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 62 | 11 | 2 | 42 | 0 | 0 | 117 | TOTAL | 49 | 5 | 0 | 23 | 0 | 0 | 77 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 29 |

| | |
|---|---|
| AM PEAK HOUR | 2:00 PM |
| AM PEAK VOLUME | 27 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 111 | 16 | 2 | 65 | 0 | 0 | 194 |
| % OF TOTAL | 57.2% | 8.2% | 1.0% | 33.5% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 16:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:45 | 5 | 0 | 0 | 2 | 0 | 0 | 7 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:45 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 0 | 0 | 2 | 0 | 0 | 4 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 3 | 0 | 1 | 0 | 0 | 5 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 31 | 8 | 2 | 29 | 0 | 0 | 70 | TOTAL | 14 | 2 | 0 | 12 | 0 | 0 | 28 |
| | | | | AM PEAK HOUR | | | 4:15 AM | | | | | AM PEAK HOUR | | | 2:00 PM |
| | | | | AM PEAK VOLUME | | | 25 | | | | | AM PEAK VOLUME | | | 11 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 45 | 10 | 2 | 41 | 0 | 0 | 98 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 45.9% | 10.2% | 2.0% | 41.8% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 89 | 24 | 3 | 82 | 0 | 0 | 198 |
| CLASS 6 | Buses | % OF TOTAL | 44.9% | 12.1% | 1.5% | 41.4% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | OUT | | | | | | | PM | OUT | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 0:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 5:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 1 | 2 | 0 | 2 | 0 | 0 | 5 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 23:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11:45 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 23:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 13 | 9 | 1 | 26 | 0 | 0 | 49 | TOTAL | 31 | 5 | 0 | 15 | 0 | 0 | 51 |
| | | | | AM PEAK HOUR | | | 9:30 AM | | | | | AM PEAK HOUR | | | 1:15 PM |
| | | | | AM PEAK VOLUME | | | 11 | | | | | AM PEAK VOLUME | | | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 44 | 14 | 1 | 41 | 0 | 0 | 100 |
| % OF TOTAL | 44.0% | 14.0% | 1.0% | 41.0% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | BUS |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | | PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 0:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:15 | 0 | 0 | 0 | 5 | 0 | 0 | 5 |
| 0:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 1 | 0 | 2 | 0 | 0 | 3 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 10 | 0 | 0 | 1 | 0 | 0 | 11 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 7 | 0 | 0 | 2 | 0 | 0 | 9 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 2 | 0 | 0 | 0 | 0 | 4 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 16:30 | 3 | 0 | 0 | 1 | 0 | 0 | 4 |
| 4:45 | 5 | 0 | 0 | 2 | 0 | 0 | 7 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 5 | 0 | 0 | 6 | 17:15 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 5:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 6:45 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 2 | 0 | 3 | 0 | 0 | 5 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 1 | 1 | 0 | 2 | 0 | 0 | 4 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 2 | 1 | 1 | 2 | 0 | 0 | 6 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 1 | 1 | 0 | 3 | 0 | 0 | 5 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 1 | 0 | 3 | 0 | 0 | 6 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 3 | 0 | 2 | 0 | 0 | 7 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 4 | 0 | 0 | 6 | 23:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11:45 | 1 | 5 | 0 | 1 | 0 | 0 | 7 | 23:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 44 | 17 | 3 | 55 | 0 | 0 | 119 | TOTAL | 45 | 7 | 0 | 27 | 0 | 0 | 79 |

| | |
|---|---|
| AM PEAK HOUR | 4:30 AM |
| AM PEAK VOLUME | 27 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 26 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 89 | 24 | 3 | 82 | 0 | 0 | 198 |
| % OF TOTAL | 44.9% | 12.1% | 1.5% | 41.4% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 8 | 0 | 0 | 1 | 0 | 0 | 9 | 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 | 16:45 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 3 | 0 | 0 | 3 | 0 | 0 | 6 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 27 | 4 | 1 | 22 | 0 | 0 | 54 | TOTAL | 16 | 3 | 2 | 6 | 0 | 0 | 27 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 22 |

| | |
|---|---|
| AM PEAK HOUR | 2:15 PM |
| AM PEAK VOLUME | 9 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 43 | 7 | 3 | 28 | 0 | 0 | 81 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 53.1% | 8.6% | 3.7% | 34.6% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 94 | 16 | 6 | 57 | 0 | 0 | 173 |
| CLASS 6 | Buses | % OF TOTAL | 54.3% | 9.2% | 3.5% | 32.9% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:15 | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 1 | 0 | 1 | 0 | 0 | 4 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 5:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 3 | 1 | 0 | 0 | 0 | 0 | 4 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:00 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 23:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| **TOTAL** | 15 | 4 | 1 | 22 | 0 | 0 | 42 | **TOTAL** | 36 | 5 | 2 | 7 | 0 | 0 | 50 |
| | | | | **AM PEAK HOUR** | | | 9:00 AM | | | | | | | **AM PEAK HOUR** | 1:00 PM |
| | | | | **AM PEAK VOLUME** | | | 9 | | | | | | | **AM PEAK VOLUME** | 18 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **TOTAL: AM+PM** | 51 | 9 | 3 | 29 | 0 | 0 | 92 |
| **% OF TOTAL** | 55.4% | 9.8% | 3.3% | 31.5% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| **CLASS 1** | PASSENGER VEHICLES |
| **CLASS 2** | 2-AXLE TRUCKS |
| **CLASS 3** | 3-AXLE TRUCKS |
| **CLASS 4** | 4 OR MORE AXLE TRUCKS |
| **CLASS 5** | RV |
| **CLASS 6** | BUS |

A13123

## 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | | PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:15 | 2 | 0 | 2 | 1 | 0 | 0 | 5 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 13 | 0 | 0 | 0 | 0 | 0 | 13 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 2 | 1 | 1 | 0 | 0 | 6 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 9 | 0 | 0 | 1 | 0 | 0 | 10 | 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 | 16:45 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 5:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 1 | 2 | 3 | 0 | 0 | 6 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 7:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 19:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:00 | 1 | 1 | 0 | 2 | 0 | 0 | 4 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 3 | 1 | 0 | 1 | 0 | 0 | 5 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 4 | 0 | 0 | 3 | 0 | 0 | 7 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:00 | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 23:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| 11:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 42 | 8 | 2 | 44 | 0 | 0 | 96 | TOTAL | 52 | 8 | 4 | 13 | 0 | 0 | 77 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 23 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 23 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 94 | 16 | 6 | 57 | 0 | 0 | 173 |
| % OF TOTAL | 54.3% | 9.2% | 3.5% | 32.9% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

# APPENDIX F

# PROJECT SITE PLAN

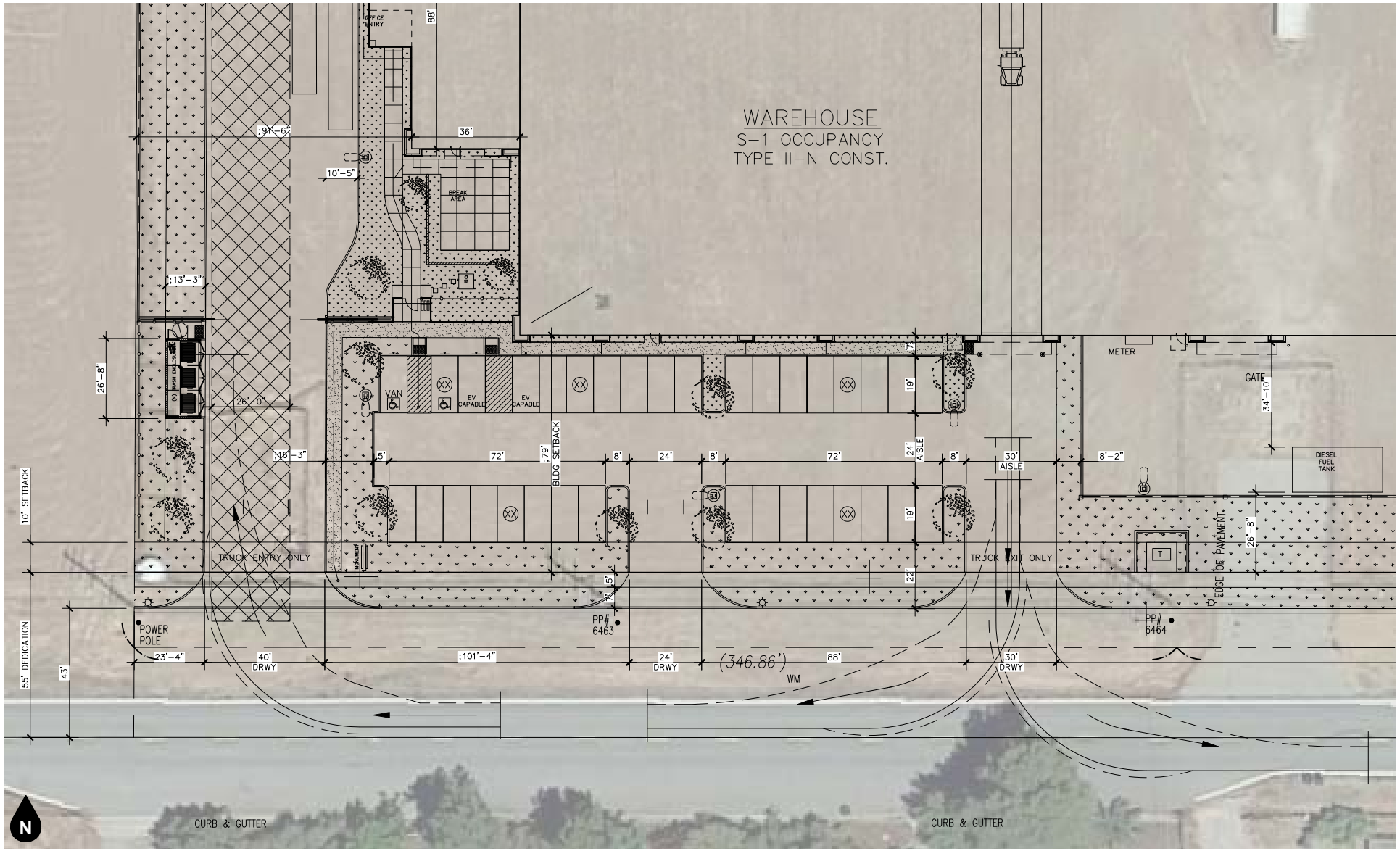



**Figure F1**
**Truck Turning Paths West Driveways**

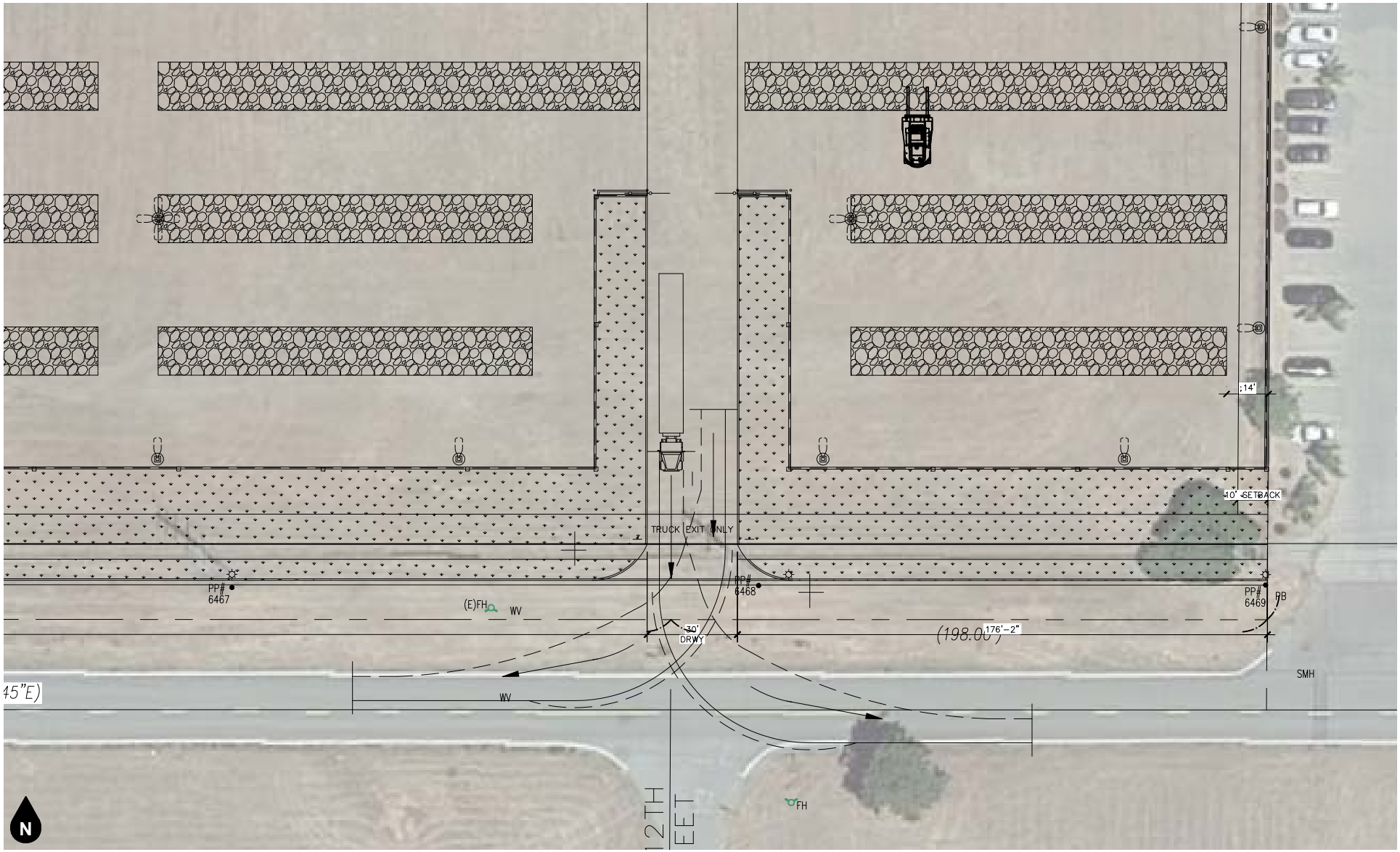



**Figure F2**
**Truck Turning Paths East Driveway**

# APPENDIX G

# ACCESS GATE QUEUING WORKSHEET

## Table G-1
## Gate Stacking Analysis[1]

| | | | |
|---|---|---|---|
| PROJECT: | Brown Strauss Banning Industrial Project | DATE: | 2023-1016 |
| LOCATION: | Project West Driveway at Lincoln Street | JN: | 19588 |

| Gate Distribution: 100% | AM | | PM | |
|---|---|---|---|---|
| | INBOUND | OUTBOUND | INBOUND | OUTBOUND |
| | 9 | 14 | 6 | 3 |
| DEMAND RATE (q) (veh/hr) | 9 | 14 | 6 | 3 |
| SERVICE RATE (Q) (veh/hr/channel)[2] | 195 | 400 | 195 | 400 |
| NO. OF SERVICE POSITIONS (N) | 1 | 1 | 1 | 1 |
| NO. OF STORAGE LANES (N1) | 1 | 1 | 1 | 1 |
| PROBABILITY OF NOT EXCEEDING (P) [3] | 0.05 | 0.05 | 0.05 | 0.05 |
| | P'=95% | P'=95% | P'=95% | P'=95% |
| UTILIZATION FACTOR (q/(N*Q)) | 0.05 | 0.04 | 0.03 | 0.01 |
| LENGTH OF QUEUED VEHICLE (L) FEET | 80 | 80 | 80 | 80 |
| LENGTH OF SERVICE VEHICLE (L) FEET | 100 | 100 | 100 | 100 |
| Q(M) VALUE [4] | 0.05 | 0.04 | 0.03 | 0.01 |
| NO. OF VEHICLES BEING SERVED (N) | 1.00 | 1.00 | 1.00 | 1.00 |
| NO. OF VEHICLES IN QUEUE (M) | -1.03 | -1.11 | -1.14 | -1.37 |
| M = ((LN(P) - LN(Q(M))/LN(p)) - 1 | ~0 | ~0 | ~0 | ~0 |
| TOTAL NUMBER OF VEHICLES (N+M) | 1.00 | 1.00 | 1.00 | 1.00 |
| | ~1 | ~1 | ~1 | ~1 |
| NO. OF VEHICLES IN EACH LANE | 1.00 | 1.00 | 1.00 | 1.00 |
| PER LANE ((N+M)/N1)[5] | 1 | 1 | 1 | 1 |
| LENGTH OF QUEUE (L) FEET | 100 | 100 | 100 | 100 |

Notes:

(1) Source: *Transportation and Land Development* (Institute of Transportation Engineers, 1988).

(2) *Entrance-Exit Design and Control for Major Parking Facilities* (Crommelin, 1972) assumes 195 vehicles per hour service rate for an access gate controlled by cashier providing direction/information, similar to a guard checking in a truck.

(3) P' = confidence interval; probability that queue will not exceed the calculated value.

(4) Q(M) = interpolated table values based on number of service channels (N) and utilization factor (q/NQ) per Table 8-11 (p.231) of *Transportation And Land Development*.

(5) Fractional vehicles are rounded up.



**GANDDINI GROUP INC.**

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# BROWN STRAUSS BANNING INDUSTRIAL PROJECT TRAFFIC IMPACT ANALYSIS

City of Banning

October 27, 2023

gandini

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

# BROWN STRAUSS BANNING INDUSTRIAL PROJECT TRAFFIC IMPACT ANALYSIS

City of Banning

October 27, 2023

*prepared by*

Bryan Crawford
Giancarlo Ganddini, PE, PTP

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Project No. 19588

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# EXECUTIVE SUMMARY

The approximately 14.92-acre project site is located at 1219 and 1431 West Lincoln Street (APNs 540-180-020, -022, and -026) in the City of Banning, California.

The currently vacant site is proposed to be developed with a steel distribution use. The total development proposal includes a 45,000 square foot warehouse, a 3,000 square foot office, two 500 square foot enclosed saw sheds, and an outdoor storage yard. The project also involves a General Plan Amendment/Zone Change for a portion of the site from Industrial (I) and General Commercial (CC) to Industrial (I).

**Existing Conditions**

The study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions.

**Project Trip Generation**

The existing Brown Strauss facility currently generates approximately 191 daily vehicle trips, including 22 vehicle trips during the AM peak hour and 10 vehicle trips during the PM peak hour. The existing Brown Strauss facility currently generates approximately 343 daily PCE trips, including 43 PCE trips during the AM peak hour and 16 PCE trips during the PM peak hour.

The existing Brown Strauss Steel operation located at 14970 Jurupa Avenue in the City of Fontana will be closed with operations moved to this City of Banning location. The City of Fontana location is 23.0-acres which is larger than the 14.92-acre project site. This traffic impact analysis uses the trip generation for the 23-acre site without adjustment for the proposed 14.92-acre site. This will provide for a conservative analysis while conforming with the intent that the project is moving operations and operations will remain similarly to existing status, even if the new location has a smaller square footage.

**Levels of Service/Operational Analysis Findings (Non-CEQA)**

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year Conditions With Project (2025), except for the following study intersection that is forecast to continue operating at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Opening Year Conditions With Project (2025).

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Cumulative Conditions With Project (2025), except for the following study intersection that is forecast to operate at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Cumulative Conditions With Project (2025).

**General Plan Amendment Analysis**

Since maximum potential buildout of APN 540-180-022 is forecast to generate fewer trips with the proposed Industrial (I) land use designation compared to the existing General Commercial (GC) land use designation, the proposed General Plan Amendment would not exceed impacts associated with buildout of the current General Plan.

**Site Access & Circulation**

It is recommended that the entrance gate at the Project West Driveway is either moved north into the project site to allow for at least 100 feet of queuing capacity from Lincoln Street or always remain open during operating hours so that trucks do not need to wait for the gate to open.

Based on the relatively low turning movement volumes generated by the project, separation of passenger car and truck accesses, and separation of inbound and outbound trucks, the proposed project driveways are expected to function adequately.

# 1. INTRODUCTION

This section introduces the proposed project and the general scope of the analysis.

## PURPOSE AND OBJECTIVES

The purpose of this study is to evaluate the potential for transportation impacts resulting from development of the proposed project in the context of the City of Banning's discretionary authority for conformance with locally established operational standard. Although this is a technical report, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with terms related to transportation engineering.

This study was prepared in consultation with City of Banning staff and in accordance with the procedures and methodologies for assessing transportation impacts established by the City of Banning. To assess the project's conformance with local operational standards, this study evaluates the project's effect on traffic operations and, if necessary, identifies recommended improvements or corrective measures to alleviate operational deficiencies substantially caused or worsened by the proposed project.

For CEQA purposes, the project's vehicle miles traveled (VMT) impact is documented separately in the *Brown Strauss Banning Industrial Project Vehicle Miles Traveled Screening Assessment* (Ganddini Group, Inc., April 2023).

## PROJECT DESCRIPTION

The approximately 14.92-acre project site is located at 1219 and 1431 West Lincoln Street (APNs 540-180-020, -022, and -026) in the City of Banning, California. Figure 1 shows the project location map.

The currently vacant site is proposed to be developed with a steel distribution use. The total development proposal includes a 45,000 square foot warehouse, a 3,000 square foot office, two 500 square foot enclosed saw sheds, and an outdoor storage yard. The project also involves a General Plan Amendment/Zone Change for a portion of the site from Industrial (I) and General Commercial (CC) to Industrial (I). Figure 2 illustrates the project site plan.

The project site is proposed to provide four access driveways on West Lincoln Street. The project west driveway will be a truck entrance only driveway. The project central-west driveway will be a full access automobile only driveway. The project central-east and east driveways will be truck exit only driveways. For purposes of this analysis, the proposed project is anticipated to be constructed and fully operational by year 2025.

Brown Strauss Steel currently operates a larger facility located at 14970 Jurupa Avenue in the City of Fontana. If the proposed Banning project is approved, the existing operation in Fontana will be closed and its operations will be moved to the proposed Banning location.

## SCOPE OF ANALYSIS

The scope of this analysis was determined in consultation with City of Banning staff as documented in the City-approved scoping agreement provided in Appendix B.

### Study Area

Based on the study intersections identified in the approved scoping agreement, the study area consists of the following study intersections within City of Banning jurisdiction:

| Study Intersections[1] | Jurisdiction |
|---|---|
| 1. 22nd Street (NS) at Lincoln Street (EW) | City of Banning |
| 2. Project West Driveway (NS) at Lincoln Street (EW) | City of Banning |
| 3. Project Central-West Driveway (NS) at Lincoln Street (EW) | City of Banning |
| 4. Project Central-East Driveway (NS) at Lincoln Street (EW) | City of Banning |
| 5. Project East Driveway/12th Street (NS) at Lincoln Street (EW) | City of Banning |
| 6. 8th Street (NS) at Lincoln Street (EW) | City of Banning |

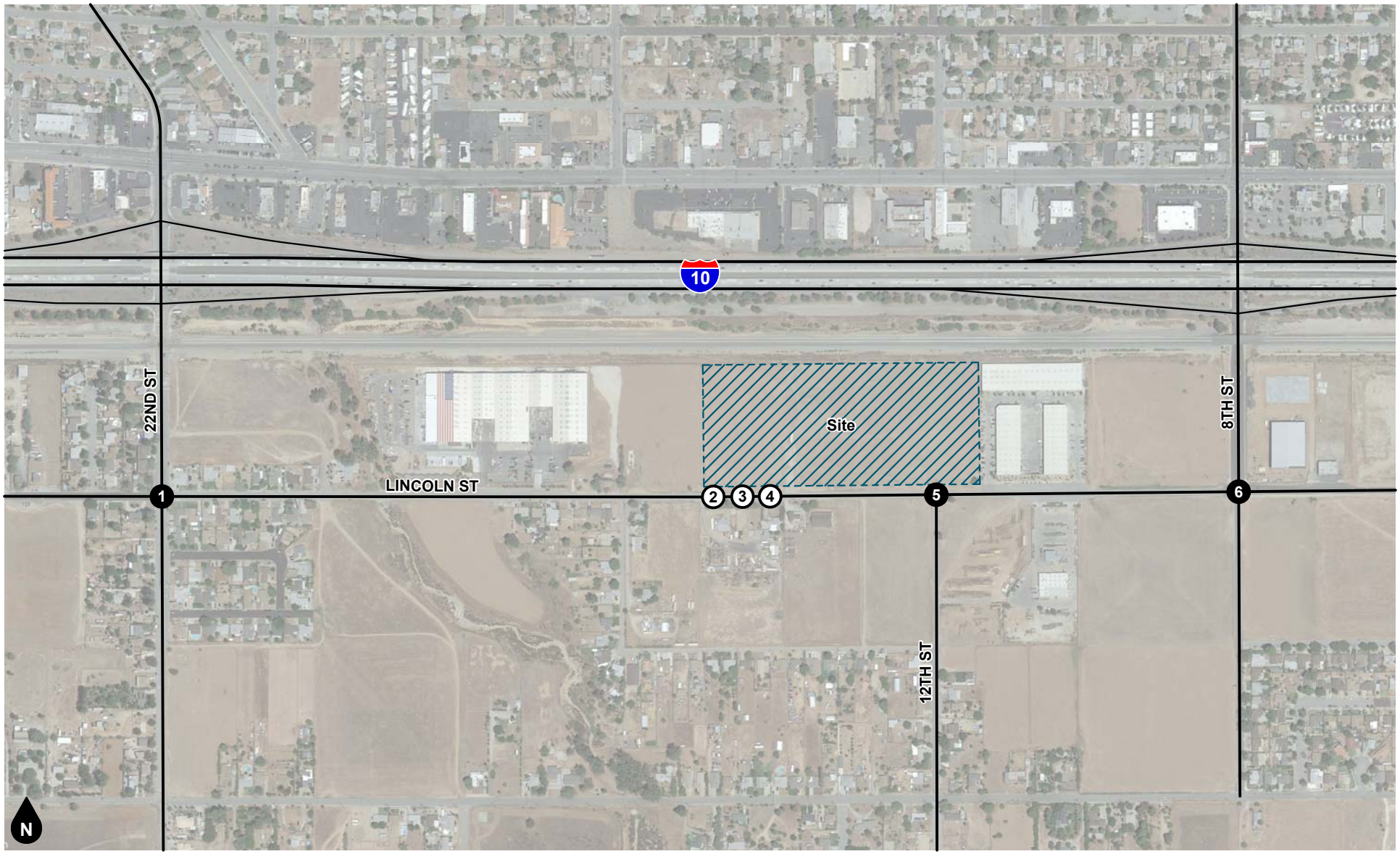
Notes:
1. (NS) = North-South roadway; (EW) = East-West roadway

## Analysis Scenarios

The following scenarios are analyzed for weekday AM and PM peak hour conditions:

- Existing Conditions (2023)
- Opening Year Conditions (2025)
- Opening Year Conditions With Project (2025)
- Cumulative Conditions (2025)
- Cumulative Conditions With Project (2025)
- Horizon Year Conditions (2045)
- Horizon Year Conditions With Project (2045)

This study includes a General Plan Buildout (Horizon Year (2045)) analysis as the project also involves a General Plan Amendment/Zone Change for a portion of the site from Industrial (I) and General Commercial (CC) to Industrial (I).




Legend

(#) Study Intersection

(#) Project Driveway

**Figure 1**
**Project Location Map**

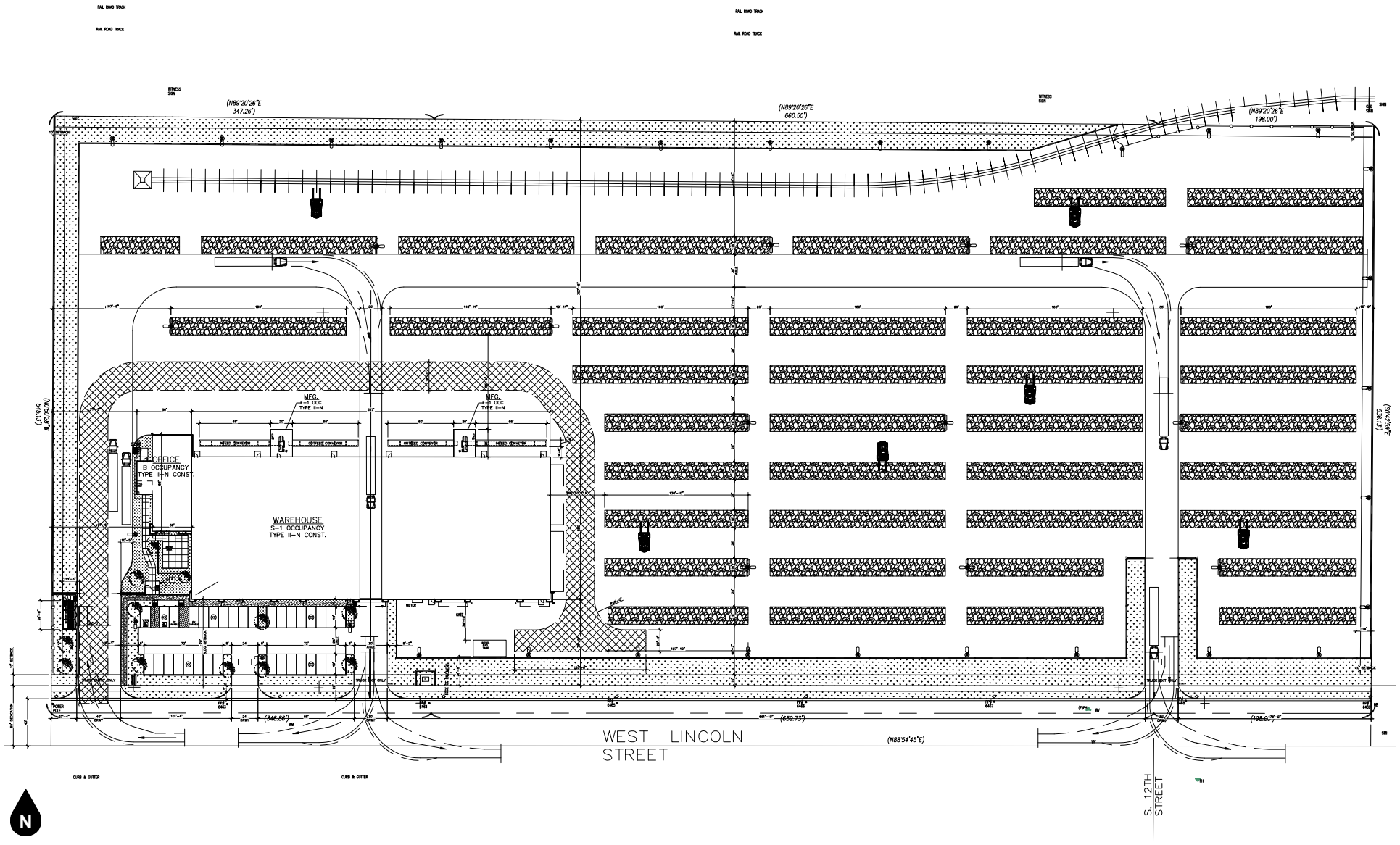



**Figure 2**
**Site Plan**

# 2. METHODOLOGY

This section discusses the analysis methodologies used to assess transportation facility performance as adopted by the respective jurisdictional agencies.

### LEVEL OF SERVICE ANALYTICAL METHODOLOGY (NON-CEQA)

Level of Service analysis is performed for assessing conformance with General Plan and operational standards established by the applicable agencies. In accordance with current CEQA provisions, a project's effect on automobile delay (as measured by Level of Service) shall not constitute a significant environmental impact.

**Intersection Delay Methodology**

The technique used to assess the performance of intersections is known as the intersection delay methodology based on the procedures contained in the *Highway Capacity Manual* (Transportation Research Board, 7th Edition). The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service. Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to Level of Service based on the following thresholds:

| Level of Service | Intersection Control Delay (Seconds / Vehicle) | |
|---|---|---|
| | Signalized Intersection | Unsignalized Intersection |
| A | ≤ 10.0 | ≤ 10.0 |
| B | > 10.0 to ≤ 20.0 | > 10.0 to ≤ 15.0 |
| C | > 20.0 to ≤ 35.0 | > 15.0 to ≤ 25.0 |
| D | > 35.0 to ≤ 55.0 | > 25.0 to ≤ 35.0 |
| E | > 55.0 to ≤ 80.0 | > 35.0 to ≤ 50.0 |
| F | > 80.0 | > 50.0 |

Source: Transportation Research Board, Highway Capacity Manual (6th Edition).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, Level of Service is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), Level of Service is determined by the average control delay for the worst individual movement (or movements sharing a single lane). Intersection delay and Level of Service calculations were performed using the Vistro software.

The Intersection delay and Level of Service calculations were performed in accordance with input parameters as defined in the City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis*, October 2021.

**Performance Standards**

The City of Banning has established LOS D as the minimum acceptable Level of Service along all City maintained roads (including intersections).

**Substantial Operational Deficiency Criteria**

For study intersections within the City of Banning jurisdiction, a traffic impact occurs if:

a) The addition of project traffic causes the intersection LOS to degrade from acceptable LOS D or better to an unacceptable LOS E or F.

b) The addition of project traffic causes the peak hour delay to increase as follows:

- LOS A/B by 10 seconds;
- LOS C by 8 seconds;
- LOS D by 5 seconds;
- LOS E by 2 seconds;
- LOS F by 1 second

If either of the above conditions is satisfied, improvements should be identified that achieve the following:

- Improving traffic operations to LOS D for case a, above.
- Improving traffic operations to offset the increase in delay for case b, above.

If a project is forecast to cause an operational traffic impact, feasible improvements that will reduce the impact to an acceptable LOS are identified. Improvements can be in many forms, including the addition of lanes, traffic control modification, or demand management measures.

### VEHICLE MILES TRAVELED ANALYTICAL METHODOLOGY (CEQA)

The metric used to evaluate the transportation impact of land use and transportation projects under CEQA is known as vehicle miles traveled (VMT). In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. As previously noted, the project's VMT impact is documented separately in the *Brown Strauss Banning Industrial Project Vehicle Miles Traveled Screening Assessment* (Ganddini Group, Inc., April 2023).

# 3. EXISTING CONDITIONS

This section describes the existing transportation setting in the project vicinity.

### EXISTING ROADWAY SYSTEM

Figure 3 identifies the lane geometry and intersection traffic controls for Existing conditions based on a field survey of the study area. Regional access to the project site is provided by the Interstate 10 (I-10) Freeway located adjacent to the project site to the north. Key roadways providing local circulation include 22nd Street, 12th Street, 8th Street, and Lincoln Street.

### GENERAL PLAN CONTEXT

Figure 4 shows the City of Banning General Plan Circulation Element roadway classifications map. This figure shows the nature and extent of arterial and collector highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The City of Banning standard roadway cross-sections are illustrated on Figure 5.

Figure 6 shows the County of Riverside Pass Area Circulation Element roadway classifications map. This figure shows the nature and extent of arterial and collector highways that are needed to adequately serve the ultimate development depicted by the Pass Area Plan (September 28, 2021). The County of Riverside standard roadway cross-sections are illustrated on Figure 7.

### TRUCK ROUTES

The City of Banning Commercial Vehicle Routes are illustrated on Figure 8. Existing truck routes in the project vicinity are shown on Figure 8. There are currently designated truck routes along Lincoln Street, 22nd Street north of Lincoln Street, and 8th Street north of Lincoln Street. Therefore, all trucks will be able to enter/exit the project site to/from the I-10 Freeway via designated commercial vehicle routes.

### TRANSIT SERVICE

The Riverside Transit Agency (RTA) bus service and Banning Connect Transit System currently do not provide transit routes along Lincoln Street adjacent to the project site.

### BICYCLE AND PEDESTRIAN FACILITIES

The County of Riverside Pass Area Trails and Bikeway Systems are illustrated on Figure 9. There are currently no existing bicycle lanes along Lincoln Street adjacent to the project site. The County of Riverside Pass Area Trails and Bikeway Systems does not show proposed bicycle lanes on Lincoln Street along the project site frontage.

Existing pedestrian facilities in the project vicinity are shown on Figure 10. Sidewalks are not currently provided on Lincoln Street along the project site frontage.

### EXISTING ROADWAY VOLUMES

Figure 11 and Figure 12 show the Existing AM and PM peak hour intersection turning movement volumes. Existing peak hour intersection volumes are based upon AM peak period and PM peak period intersection turning movement counts obtained in August 2023 during typical weekday conditions when schools were in session. The weekday AM peak period was counted between 7:00 AM and 9:00 AM and the weekday PM peak period was counted between 4:00 PM and 6:00 PM; these periods capture the peak times for commuter

traffic when the roadway system is typically experiencing peak demand. The actual peak hour within each two-hour count period is determined based on the sum of the four consecutive 15-minute periods with the highest total volume. Thus, the weekday PM peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15-minute periods have the highest total volume and may vary at other intersections. Truck trips were converted to Passenger Car Equivalent (PCE) trips based on the following factors: 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with four or more axles in accordance with City of Banning guidelines. Traffic count worksheets are provided in Appendix C.

### EXISTING LEVELS OF SERVICE

The intersection Levels of Service for Existing conditions are shown in Table 1. Existing intersection Level of Service calculation worksheets are provided in Appendix D.

As shown in Table 1, the study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions.

**Table 1**
**Existing Conditions Intersection Levels of Service**

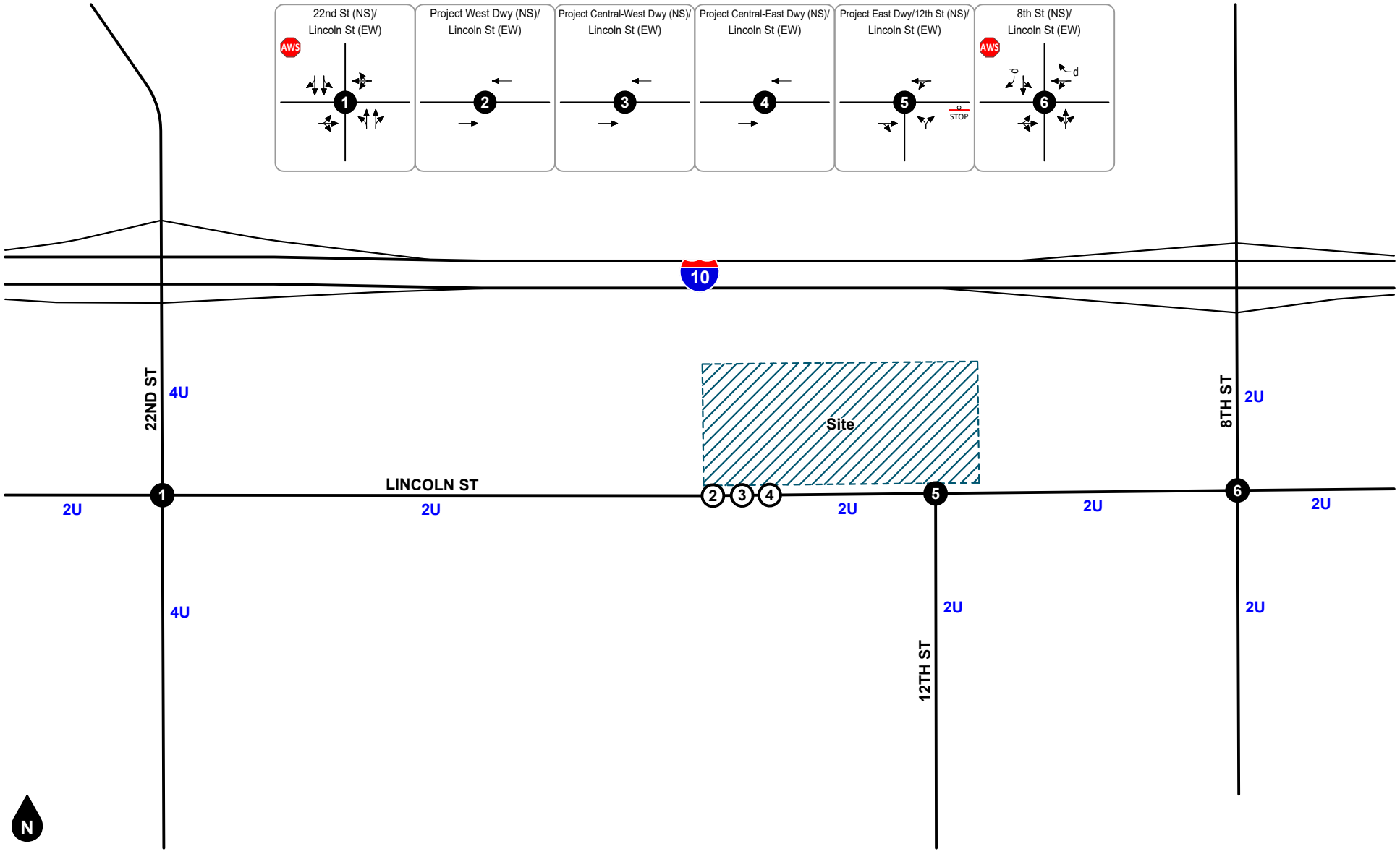
| Study Intersection | Traffic Control[1] | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|
| | | Delay[2] | LOS[3] | Delay[2] | LOS[3] |
| 1. 22nd St at Lincoln St | AWS | 8.0 | A | 7.8 | A |
| 5. Project East Dwy/12th St at Lincoln St | CSS | 9.0 | A | 9.2 | A |
| 6. 8th St at Lincoln St | AWS | 33.6 | D | 12.4 | B |

Notes:

(1) AWS = All Way Stop; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach or major street left turn movement.

(3) LOS = Level of Service




Legend

- Traffic Signal
- All Way Stop
- Stop Sign
- #D #-Lane Divided Roadway
- #U #-Lane Undivided Roadway
- Existing Lane
- d De Facto Right Turn Lane

**Figure 3**
**Existing Lane Geometry and Intersection Traffic Controls**

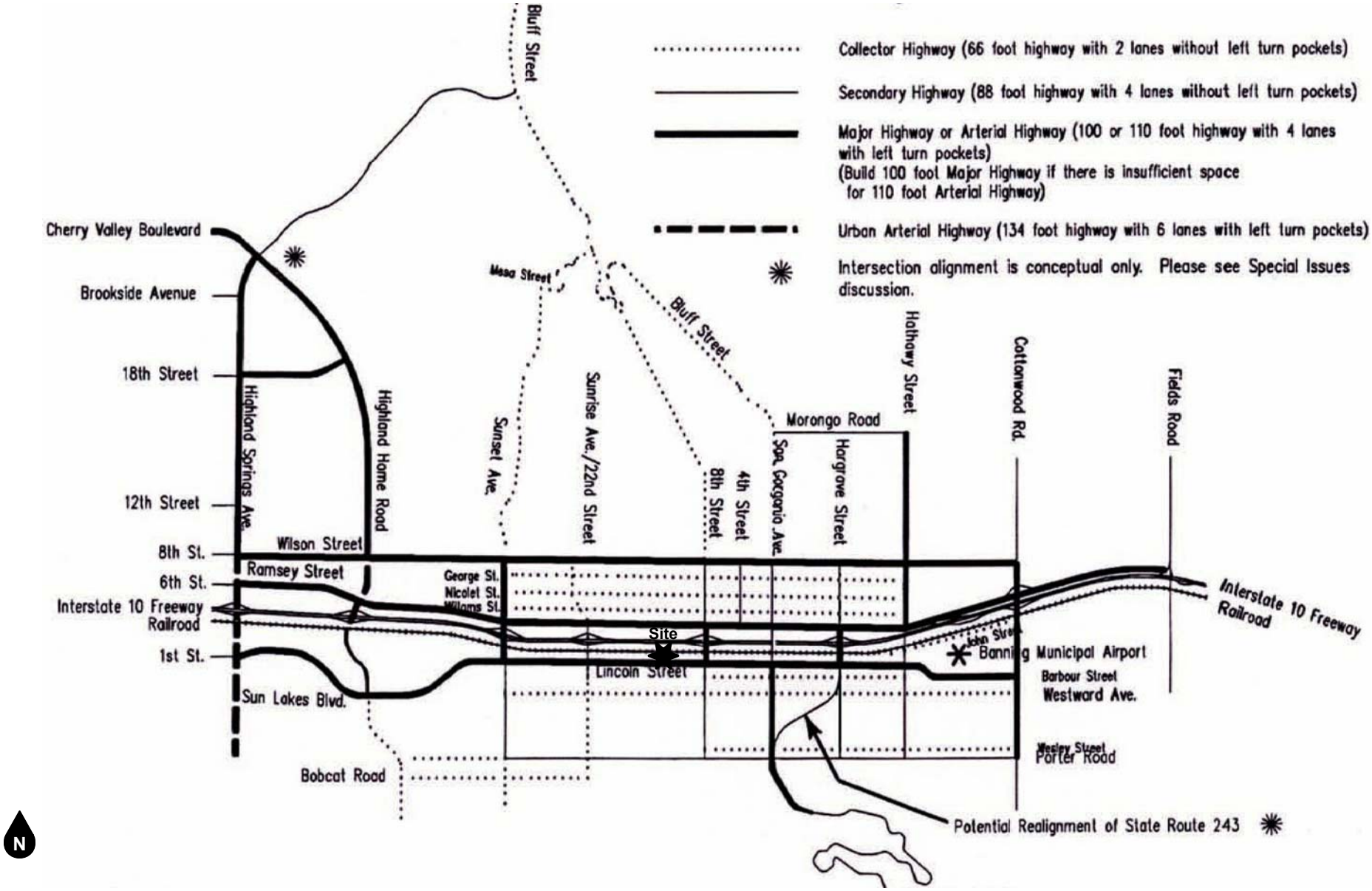



**Figure 4**
**City of Banning General Plan Circulation Element**

Source: City of Banning

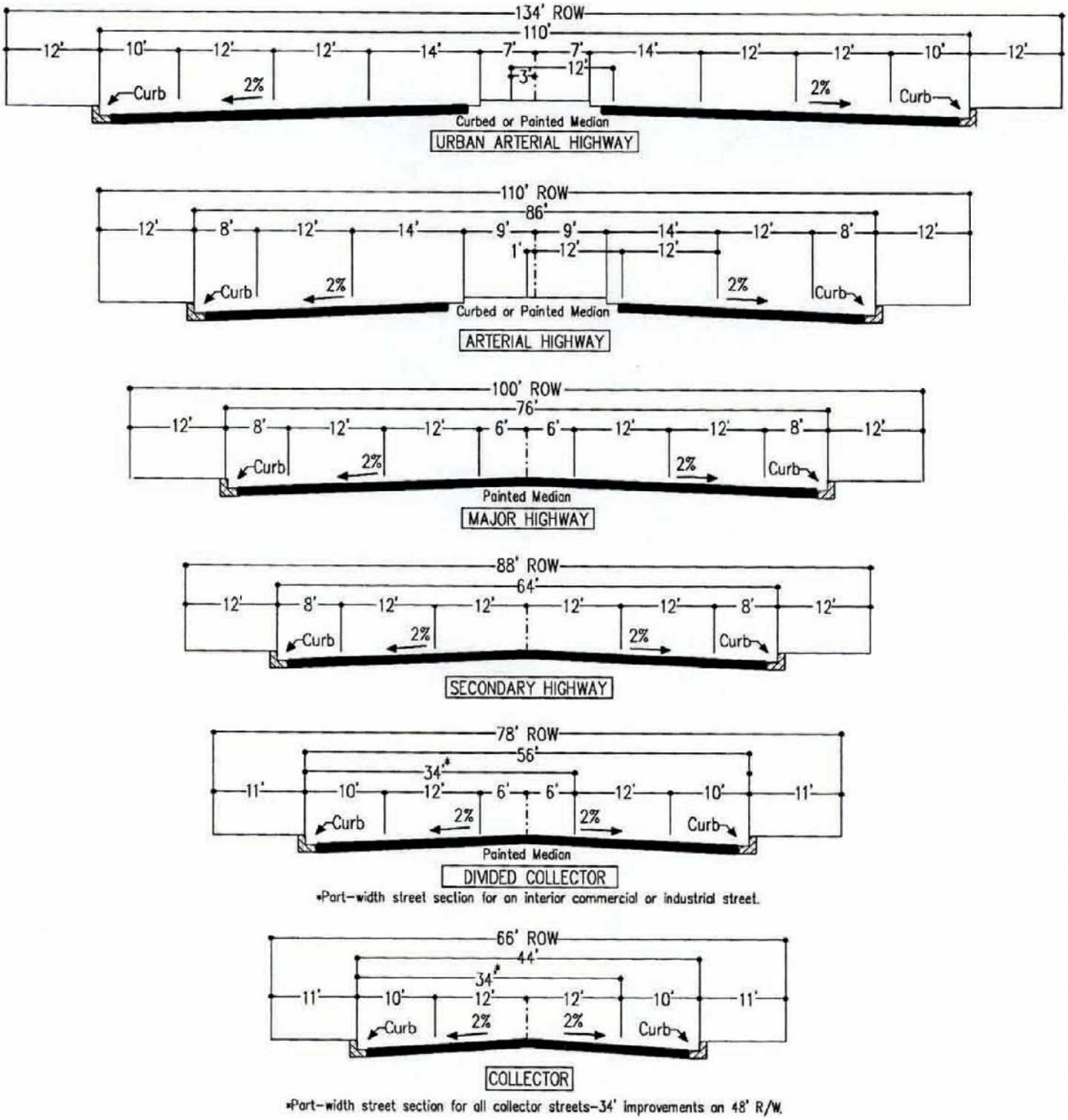



**Figure 5**
**City of Banning General Plan Roadway Cross-Sections**

Source: City of Banning

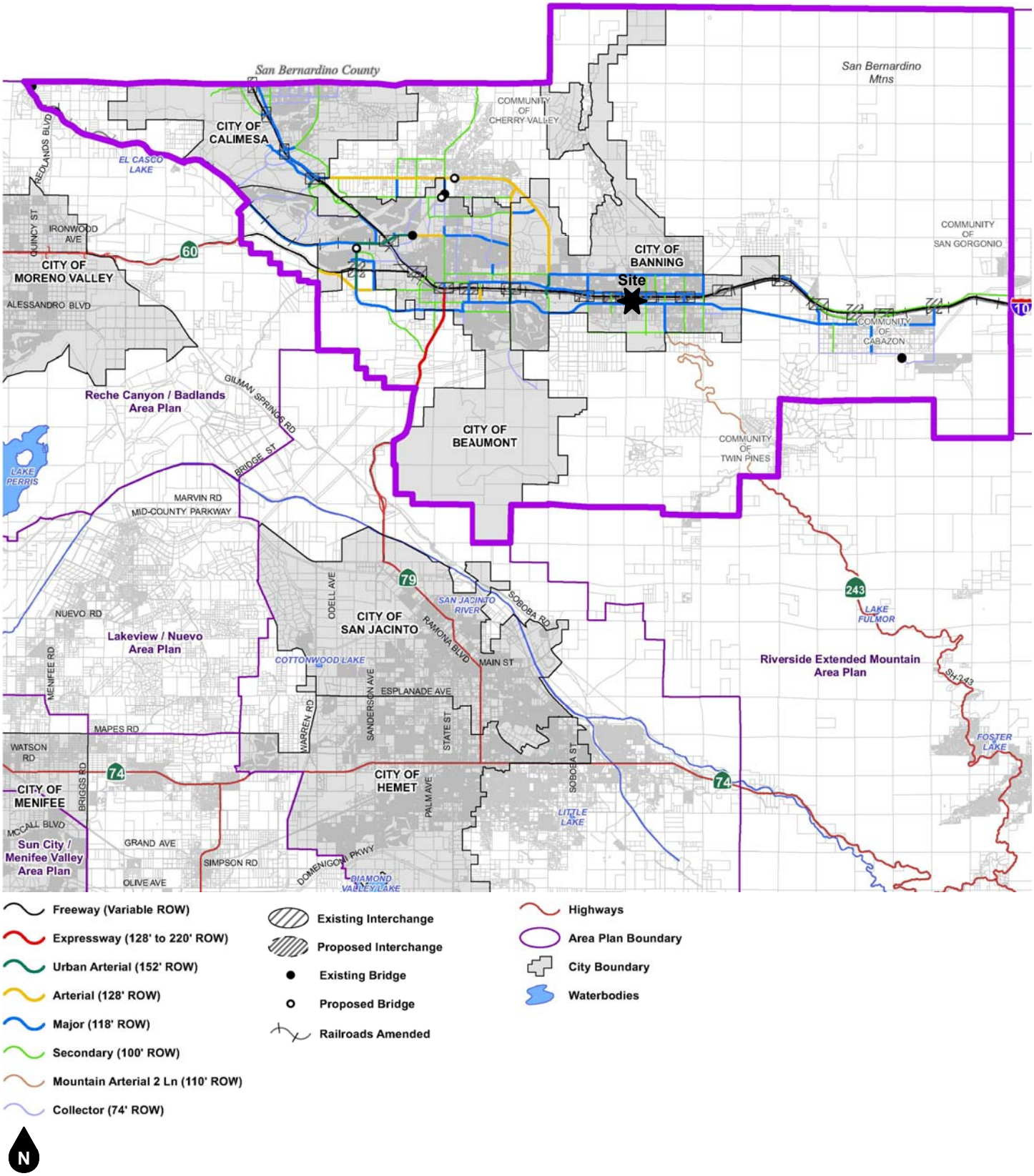
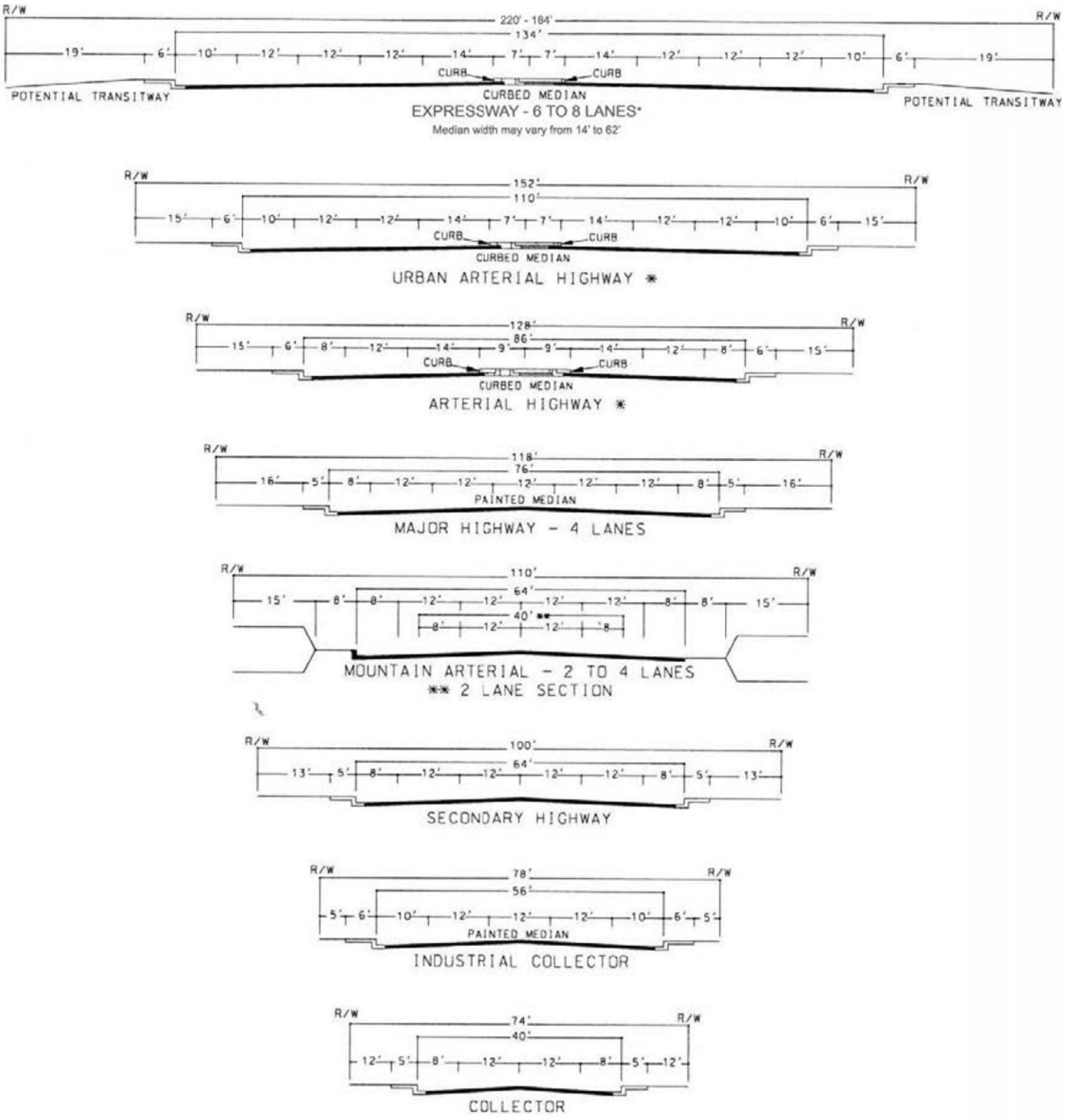



**Figure 6**
**County of Riverside Pass Area Circulation Plan**

Source: County of Riverside




*IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE. ULTIMATE IMPROVEMENTS FOR STATE HIGHWAYS SHALL CONFORM TO CALTRANS DESIGN STANDARDS.

**Figure 7**
**County of Riverside General Plan Roadway Cross-Sections**

Source: County of Riverside

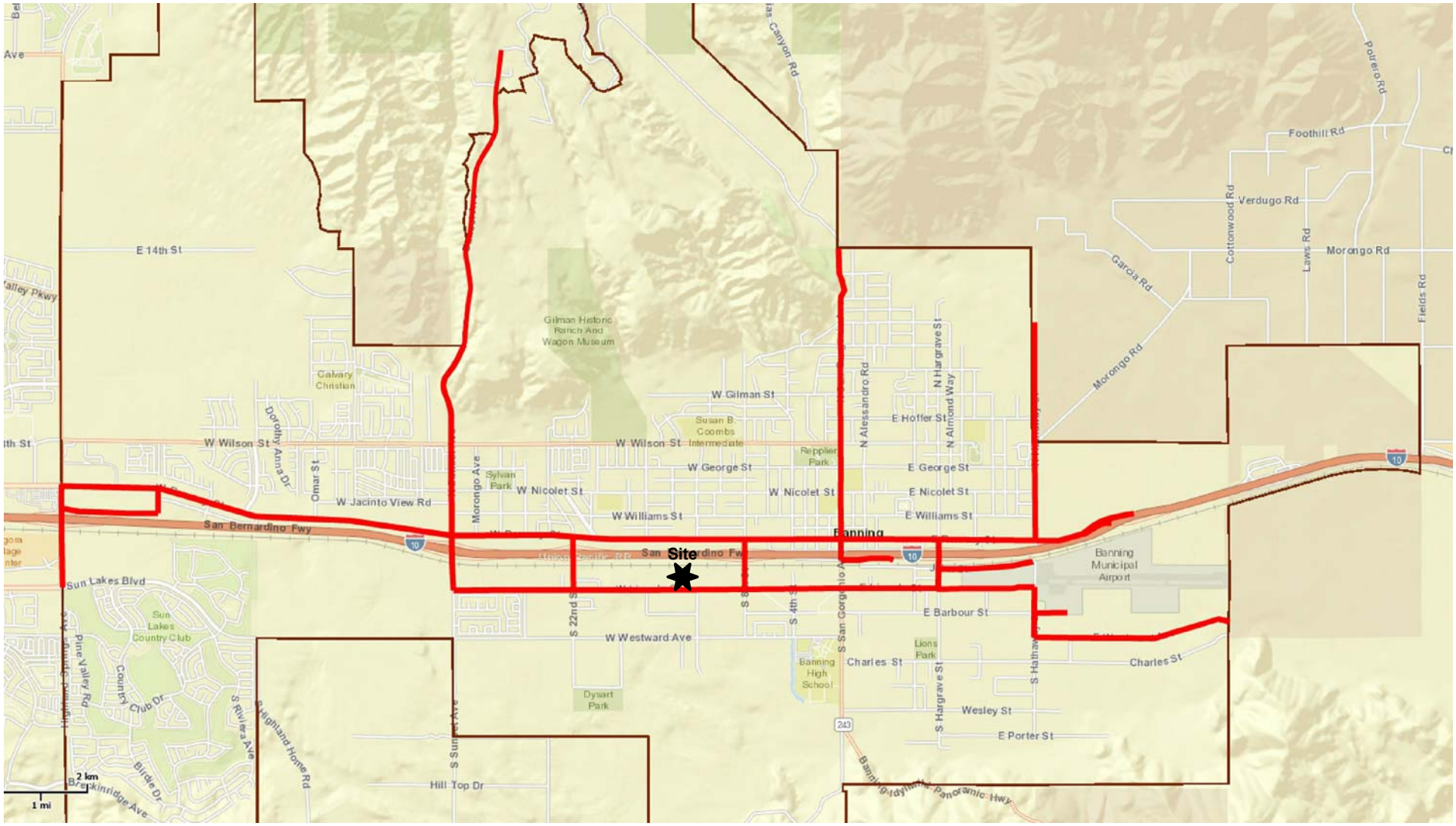



**Figure 8**
**City of Banning Commercial Vehicle Routes**

Source: City of Banning

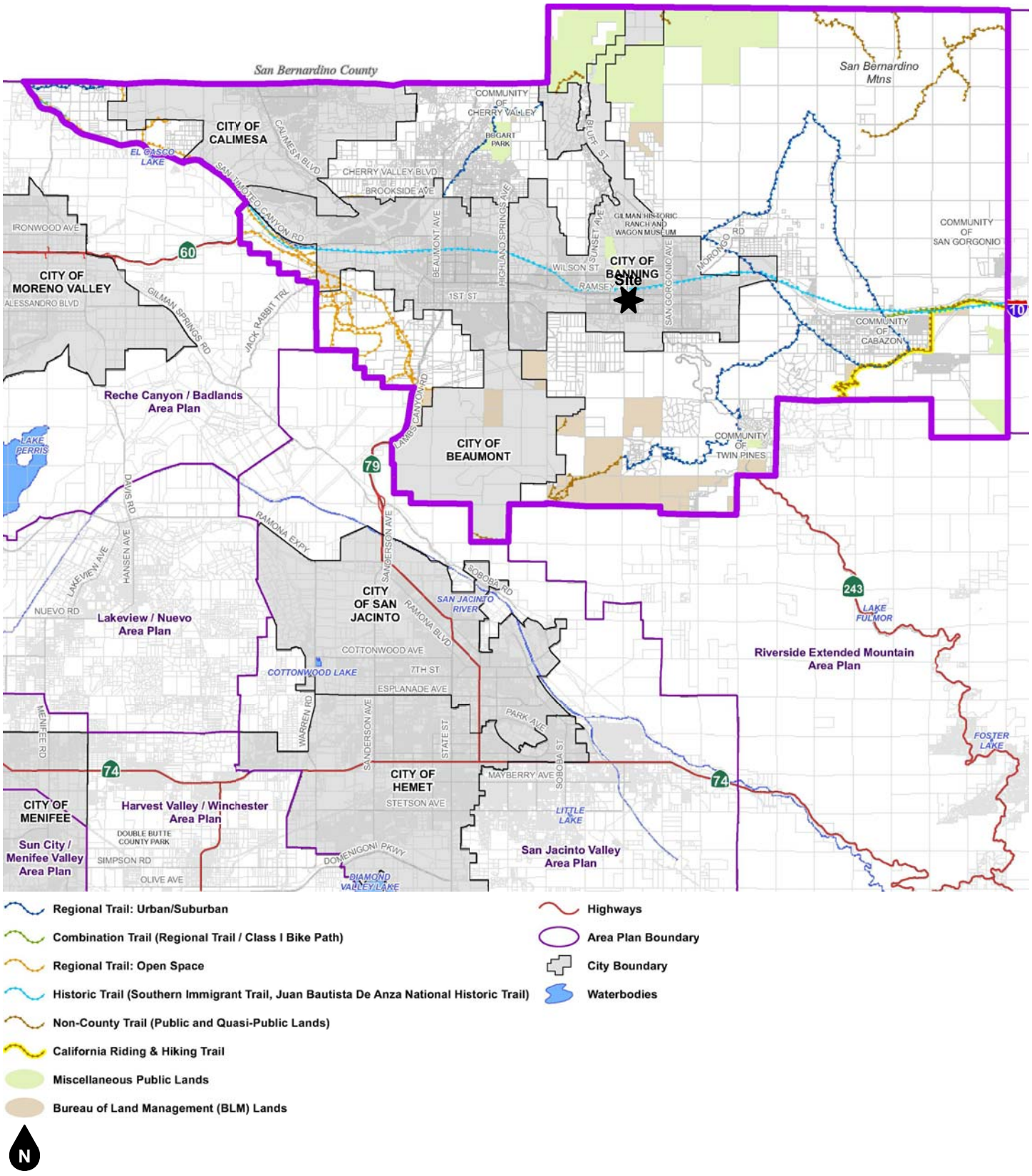
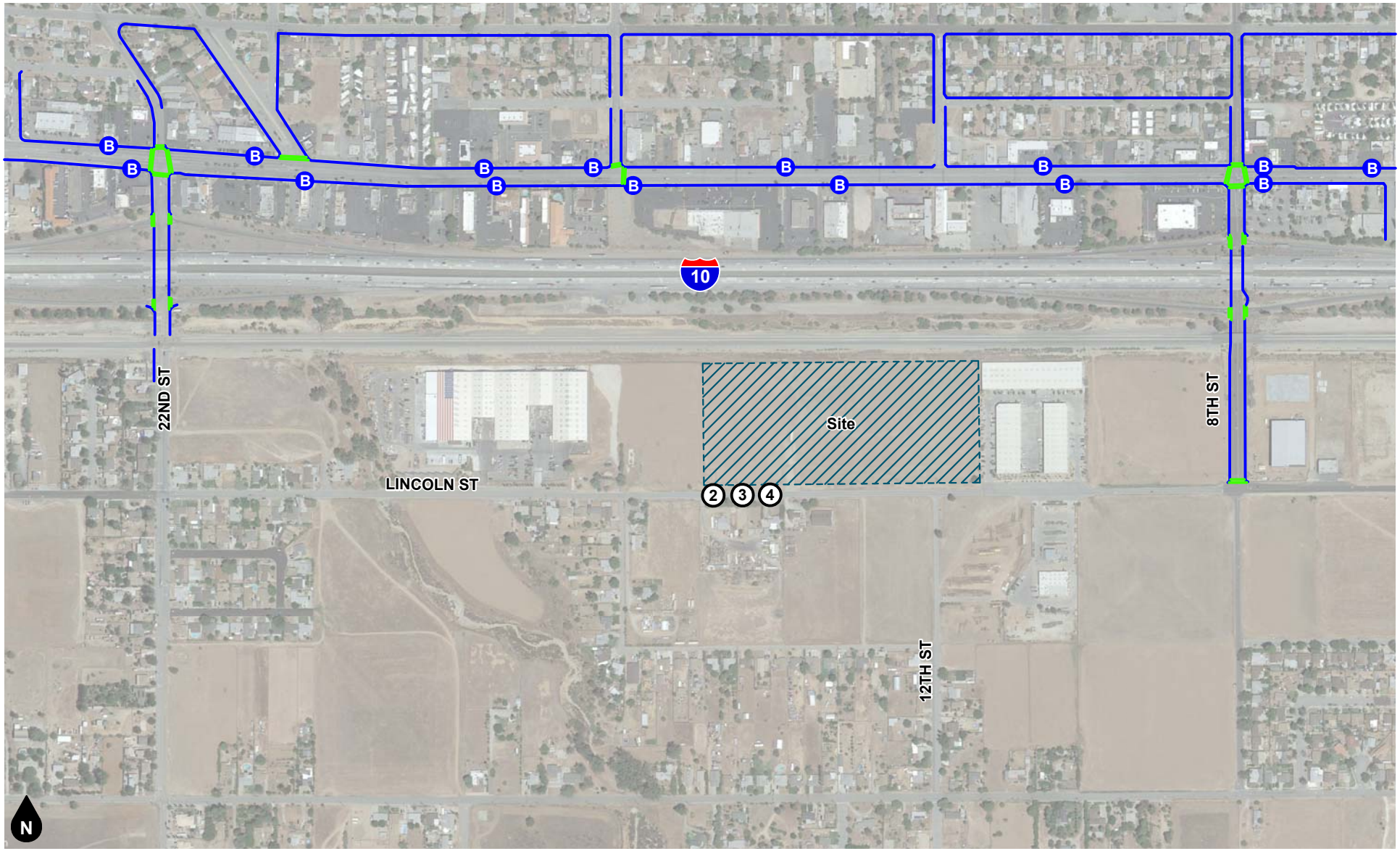



**Figure 9**
**County of Riverside Pass Area Trails and Bikeway Systems**

Source: County of Riverside




Legend
- Sidewalk
- Cross Walk
- B Bus Stop

**Figure 10**
**Existing Pedestrian Facilities**

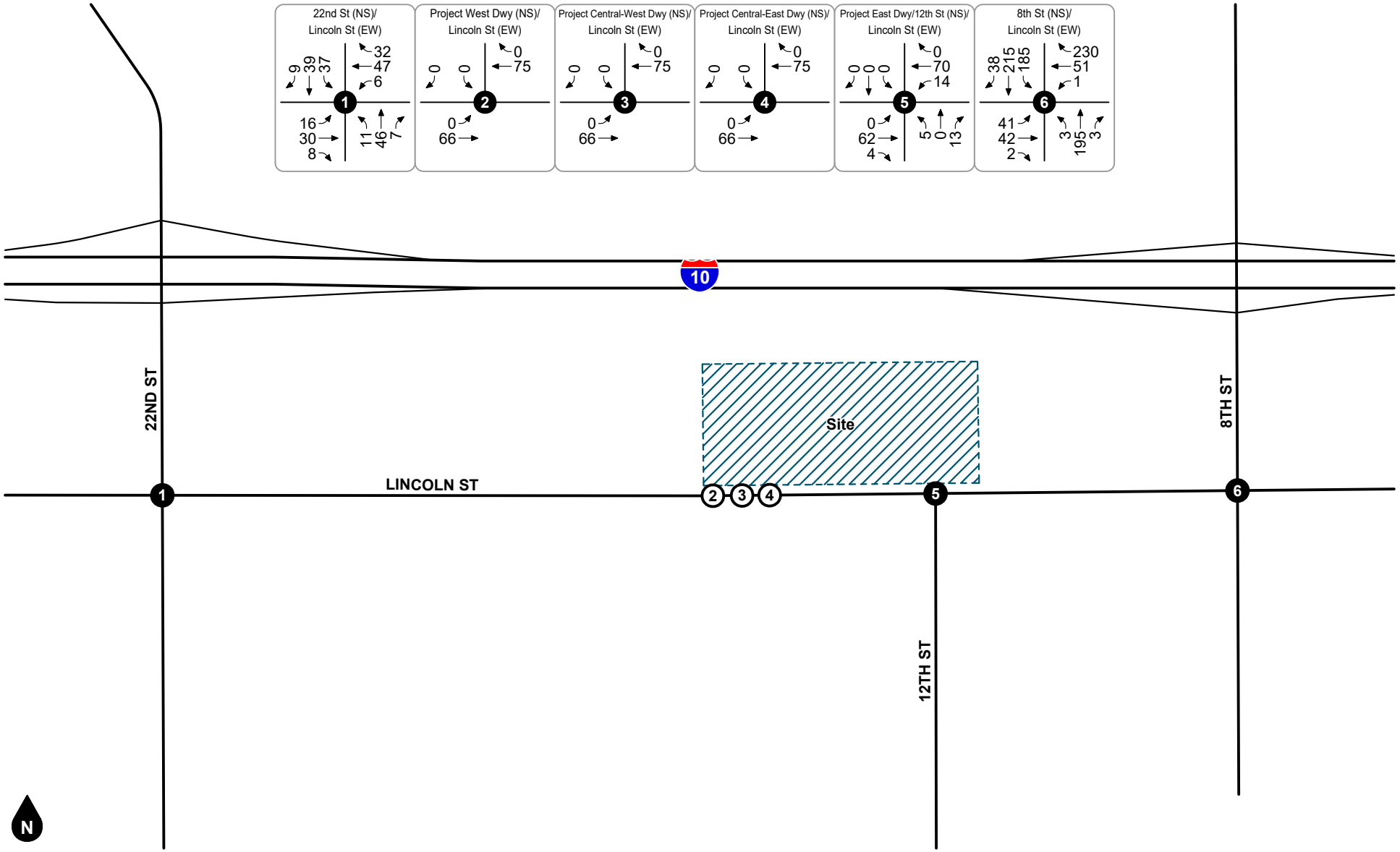



**Figure 11**
**Existing AM Peak Hour Intersection Turning Movement Volumes**

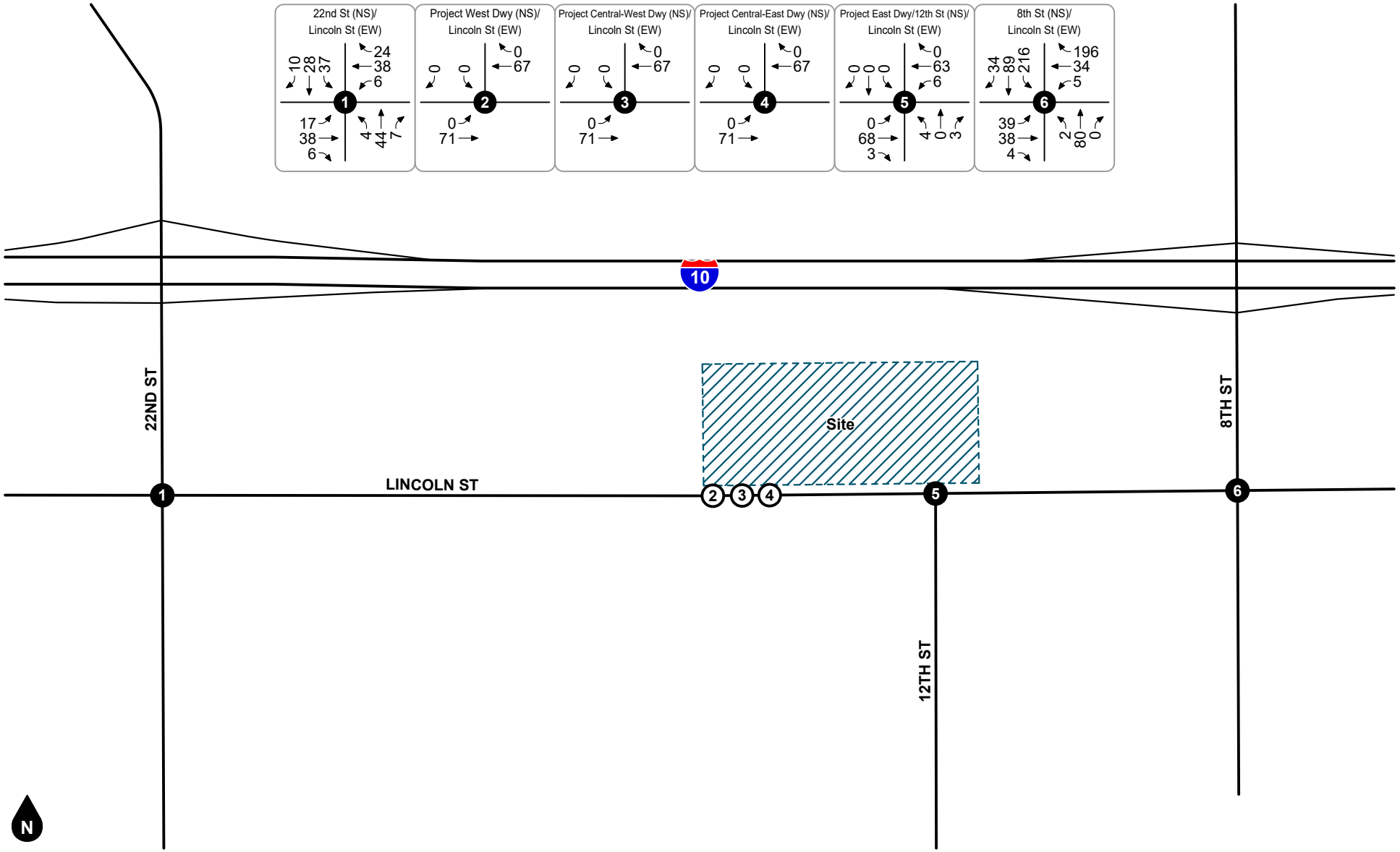



**Figure 12**
**Existing PM Peak Hour Intersection Turning Movement Volumes**

# 4. PROJECT TRIP FORECASTS

This section describes how project trip generation, trip distribution, and trip assignment forecasts were developed. The forecast project volumes are illustrated on figures contained in this section.

## PROJECT TRIP GENERATION

To determine project trip generation, 24-hour inbound/outbound trip counts were conducted at the driveway of the existing Brown Strauss Steel facility in the City of Fontana (14970 Jurupa Avenue) over a three-day period from Tuesday, March 7, 2023, through Thursday, March 9, 2023. Trip generation count worksheets are included in Appendix E.

Table 2 shows the observed trip generation for the existing Brown Strauss Steel facility, which is used in this analysis for the proposed project trip generation. As shown in Table 2, the proposed project is expected to generate approximately 191 daily vehicle trips based on the average trip counts observed at the existing Brown Strauss Steel facility, including 22 vehicle trips during the AM peak hour and 10 vehicle trips during the PM peak hour.

### Truck Trips

In accordance with industry practice and City requirements for truck-oriented uses, the existing Brown Strauss Steel facility trip generation was also calculated in terms of Passenger Car Equivalent (PCE) trips. Truck trips were converted to PCE trips based on the following factors recommended by the City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021): 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with four or more axles.

As also shown in Table 2, the proposed project is expected to generate approximately 343 daily PCE trips, including 43 PCE trips during the AM peak hour and 16 PCE trips during the PM peak hour.

### Pro-Rated Trip Generation

Table 2 also shows the trips generated per acre for the existing 23.0-acre Brown Strauss Steel facility in the City of Fontana. For informational purposes, Table 3 shows the pro-rated project trip generation based on trips generated by acre. As shown in Table 3, the proposed relocation of existing operations from the 23.0-acre facility in Fontana to a smaller 14.92-acre facility in Banning could arguably be expected to generate fewer trips. To provide a conservative assessment, this analysis assumes that the proposed 14.92-acre facility will generate the same number of trips as the existing 23.0-acre facility in the City of Fontana.

## PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Figure 13 shows the forecast project trip distribution patterns for passenger cars. Figure 14 and Figure 15 show the forecast directional distribution patterns for the project generated truck trips. The project trip distribution patterns were developed using engineering judgment in consultation with City of Banning staff and are based on review of existing volume data, surrounding land uses, designated truck routes, and the local and regional roadway facilities in the project vicinity.

Project AM and PM peak hour intersection turning movement volumes expected from the project are depicted on Figure 16 and Figure 17, respectively.

## SITE ACCESS

This analysis assumes the following improvements will be constructed by the project to provide project site access, as necessary based on the City of Banning General Plan classification for Lincoln Street as a Major Highway or Arterial Highway (100 to 110-foot right-of-way):

- Project West Driveway (NS) at Lincoln Street (EW) [Study Intersection #2]
  - Construct one inbound lane for truck ingress only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project Central-West Driveway (NS) at Lincoln Street (EW) [Study Intersection #3]
  - Construct one inbound lane and one outbound lane with southbound stop-control for passenger car access only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project Central-East Driveway (NS) at Lincoln Street (EW) [Study Intersection #4]
  - Construct one outbound lane with southbound stop-control for truck egress only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project East Driveway/12th Street (NS) at Lincoln Street (EW) [Study Intersection #5]
  - Construct one outbound lane with southbound stop-control for truck egress only
  - Northbound: one shared left/through/right turn lane
  - Eastbound: one shared left/through/right turn lane
  - Westbound: one shared left/through/right turn lane

## Table 2
## Project Trip Generation

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 2 | 3 | 5 | 2 | 2 | 4 | 19 |
| Trucks (3-Axle) | | | 2 | 0 | 2 | 0 | 0 | 0 | 4 |
| Trucks (4+-Axle) | | | 5 | 3 | 8 | 2 | 0 | 2 | 69 |
| Total | | | 12 | 10 | 22 | 4 | 6 | 10 | 191 |
| Trips Generated in Passenger Car Equivalents[3] | | | | | | | | | |
| Existing Brown Strauss Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 3 | 5 | 8 | 3 | 3 | 6 | 29 |
| Trucks (3-Axle) | | | 4 | 0 | 4 | 0 | 0 | 0 | 8 |
| Trucks (4+-Axle) | | | 15 | 9 | 24 | 6 | 0 | 6 | 207 |
| Total | | | 25 | 18 | 43 | 9 | 7 | 16 | 343 |

| Trips Generation Rates Per Acre | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 1.0 AC | | | | | | | |
| Passenger Cars | | | 0.13 | 0.17 | 0.30 | 0.00 | 0.17 | 0.17 | 4.30 |
| Trucks (2-Axle) | | | 0.09 | 0.13 | 0.22 | 0.09 | 0.09 | 0.18 | 0.83 |
| Trucks (3-Axle) | | | 0.09 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.17 |
| Trucks (4+-Axle) | | | 0.22 | 0.13 | 0.35 | 0.09 | 0.00 | 0.09 | 3.00 |
| Total | | | 0.52 | 0.43 | 0.95 | 0.17 | 0.26 | 0.43 | 8.30 |

Notes:

1. Traffic counts at project driveway (see Tables 2 and 3).
2. AC = Acres
3. Source: City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021).
4. The ITE Trip Generation Manual does not include pass-by rates for Land Use Code 937; however, the average pass-by rates for ITE Land Use Code 938 (Coffee Shop With Drive Through Window and No Indoor Seating) are 90% during the AM peak hour and 98% during the PM peak hour. Although the proposed coffee shop (with drive through and indoor seating) is expected to have similar pass-by characteristics, this analysis uses a lower pass-by rate of 80% to provide a conservative assessment.

   2-Axle = 1.5; 3-Axle = 2.0; 4+-Axle = 3.0

## Table 3
## Pro-Rated Project Trip Generation (for Informational Purposes)

| Trips Generation Rates Per Acre | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 1.0 AC | | | | | | | |
| Passenger Cars | | | 0.13 | 0.17 | 0.30 | 0.00 | 0.17 | 0.17 | 4.30 |
| Trucks (2-Axle) | | | 0.09 | 0.13 | 0.22 | 0.09 | 0.09 | 0.18 | 0.83 |
| Trucks (3-Axle) | | | 0.09 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.17 |
| Trucks (4+-Axle) | | | 0.22 | 0.13 | 0.35 | 0.09 | 0.00 | 0.09 | 3.00 |
| Total | | | 0.52 | 0.43 | 0.95 | 0.17 | 0.26 | 0.43 | 8.30 |

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Proposed Brown Strauss Facility | Counts | 14.92 AC | | | | | | | |
| Passenger Cars | | | 2 | 3 | 5 | 0 | 3 | 3 | 64 |
| Trucks (2-Axle) | | | 1 | 2 | 3 | 1 | 1 | 2 | 12 |
| Trucks (3-Axle) | | | 1 | 0 | 1 | 0 | 0 | 0 | 3 |
| Trucks (4+-Axle) | | | 3 | 2 | 5 | 1 | 0 | 1 | 45 |
| Total | | | 7 | 7 | 14 | 2 | 4 | 6 | 124 |
| Trips Generated in Passenger Car Equivalents[3] | | | | | | | | | |
| Proposed Brown Strauss Facility | Counts | 14.92 AC | | | | | | | |
| Passenger Cars | | | 2 | 3 | 5 | 0 | 3 | 3 | 64 |
| Trucks (2-Axle) | | | 2 | 3 | 5 | 2 | 2 | 4 | 18 |
| Trucks (3-Axle) | | | 2 | 0 | 2 | 0 | 0 | 0 | 6 |
| Trucks (4+-Axle) | | | 9 | 6 | 15 | 3 | 0 | 3 | 135 |
| Total | | | 15 | 12 | 27 | 5 | 5 | 10 | 223 |

Notes:

1. Traffic counts at project driveway (see Tables 2, 3 and 4).
2. AC = Acres
3. Source: City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021).
4. The ITE Trip Generation Manual does not include pass-by rates for Land Use Code 937; however, the average pass-by rates for ITE Land Use Code 938 (Coffee Shop With Drive Through Window and No Indoor Seating) are 90% during the AM peak hour and 98% during the PM peak hour. Although the proposed coffee shop (with drive through and indoor seating) is expected to have similar pass-by characteristics, this analysis uses a lower pass-by rate of 80% to provide a conservative assessment.

   2-Axle = 1.5; 3-Axle = 2.0; 4+-Axle = 3.0

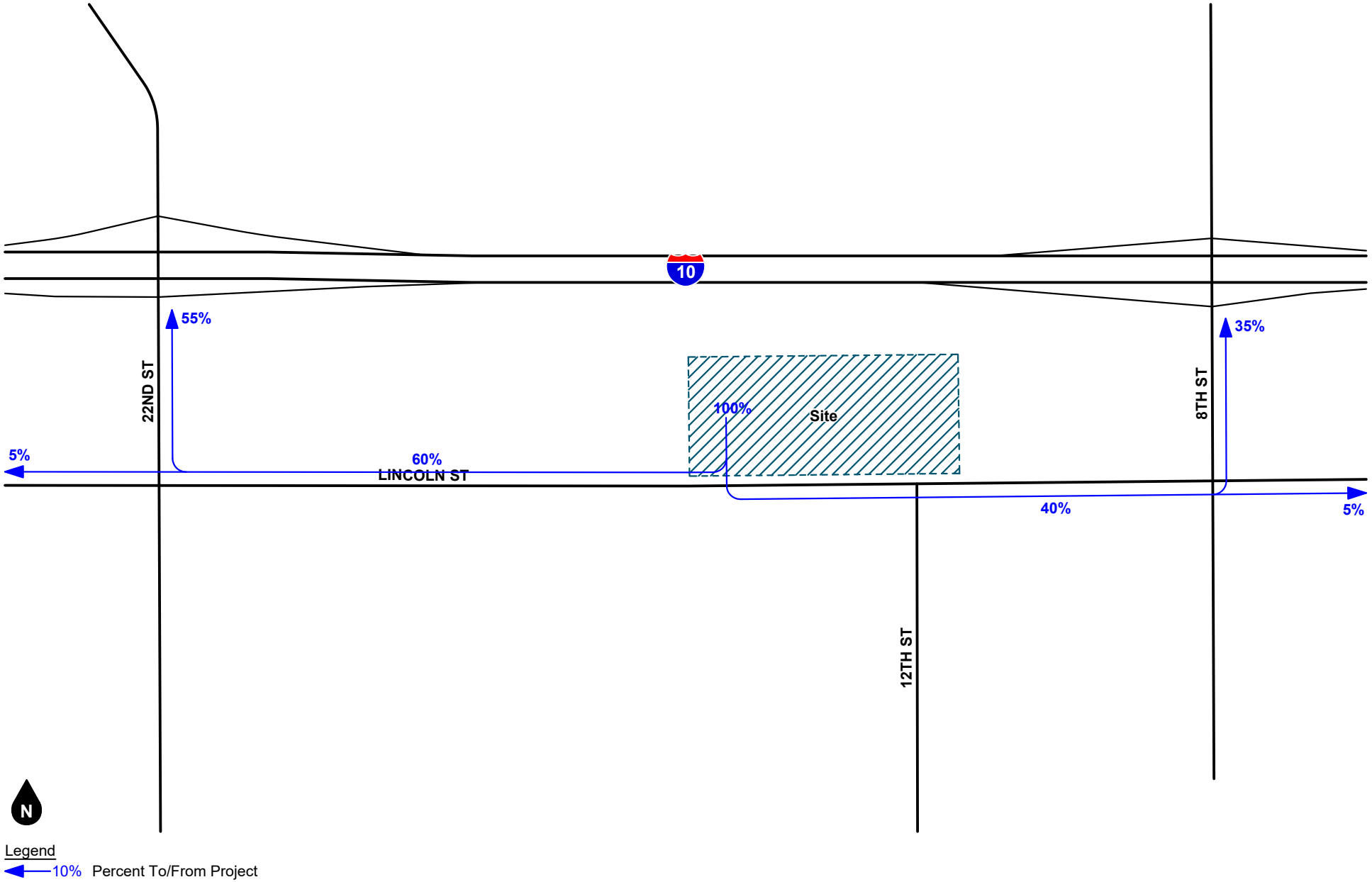



**Figure 13**
**Project Trip Distribution - Passenger Cars**

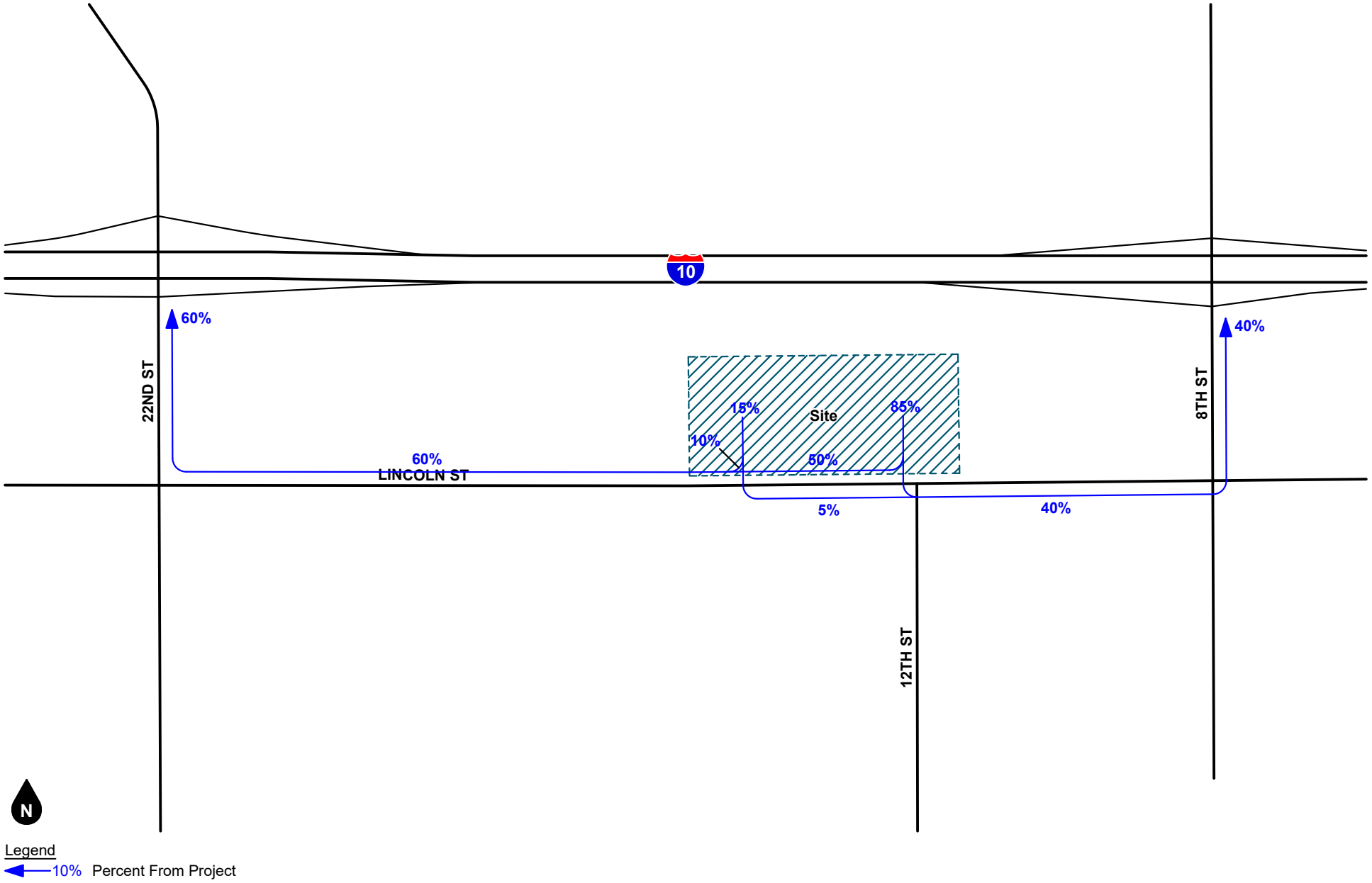



**Figure 14**
**Project Outbound Trip Distribution - Trucks**

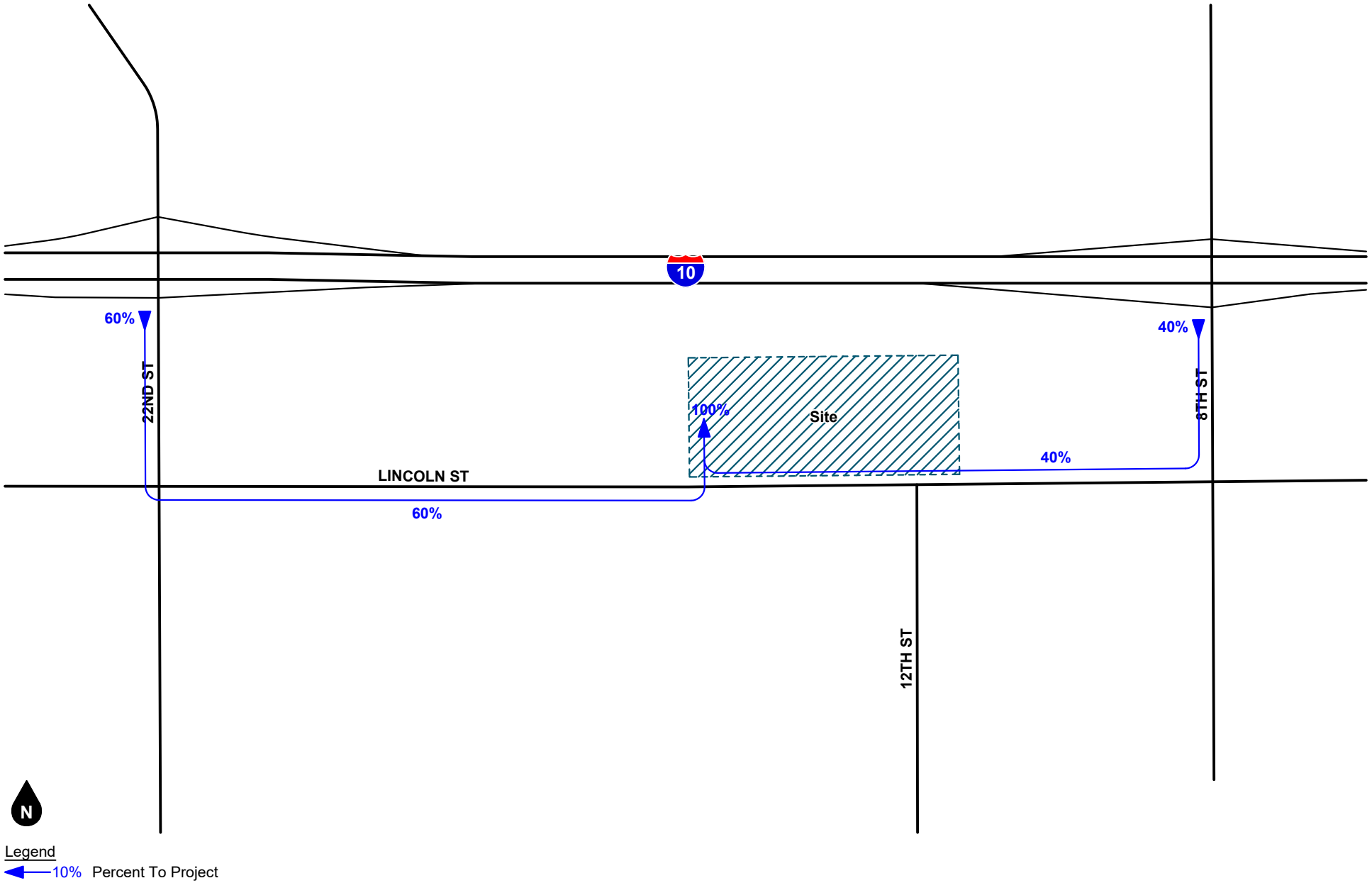



**Figure 15**
**Project Inbound Trip Distribution - Trucks**

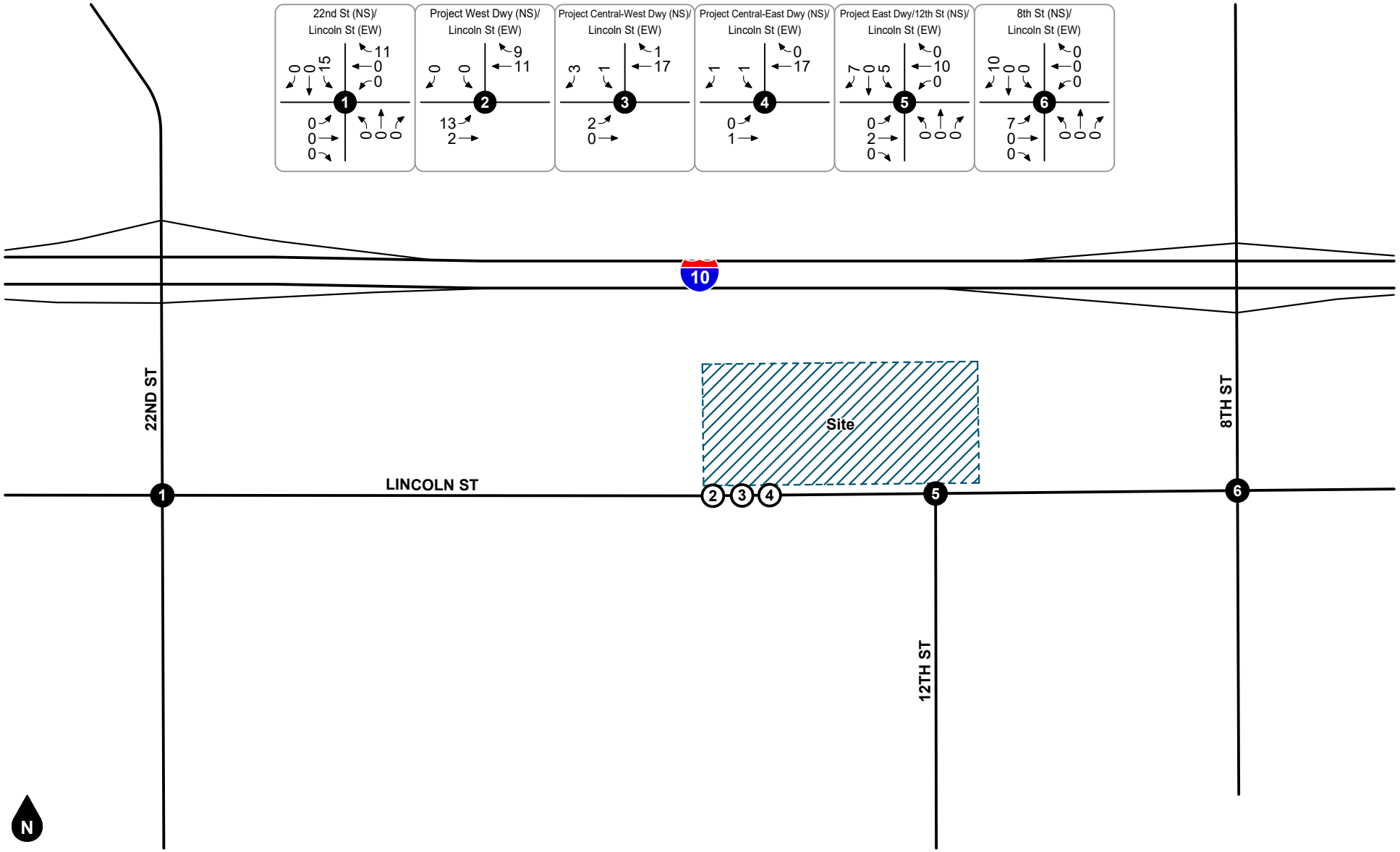



**Figure 16**
**Project AM Peak Hour Intersection Turning Movement Volumes**

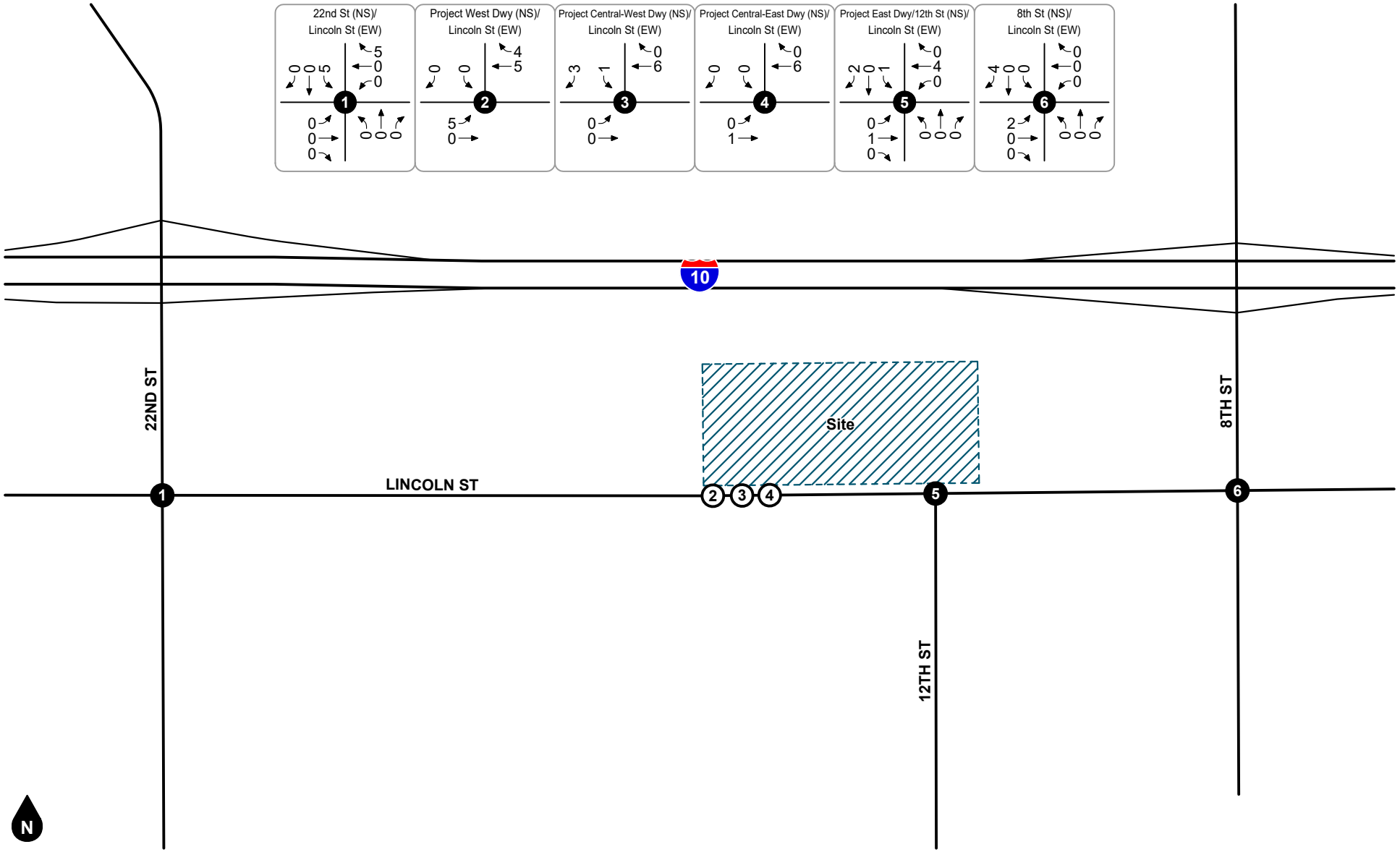



**Figure 17**
**Project PM Peak Hour Intersection Turning Movement Volumes**

# 5. FUTURE VOLUME FORECASTS

This section describes how future volume forecasts for each analysis scenario were developed. Forecast study area volumes are illustrated on figures contained in this section.

## CUMULATIVE TRIPS

### Ambient Growth Rate

To account for ambient growth on roadways, existing 2023 roadway volumes were increased by a growth rate of two percent (2%) per year over two years for Opening Year (2025) conditions. This equates to a total growth factor of approximately 1.0404. The ambient growth rate was conservatively applied to all movements at the study intersections.

### Other Development

To account for trips generated by future development, trips generated by pending or approved other development projects in the City of Banning were added to the study area. Table 4 shows the other development trip generation and Figure 18 exhibits the other development location map.

Figure 19 and Figure 20 show the forecast AM and PM peak hour intersection turning movement volumes for trips generated by other developments.

## ANALYSIS SCENARIO VOLUME FORECASTS

### Opening Year Conditions (2025)

Opening Year Conditions (2025) volume forecasts were developed by adding ambient growth to Existing volumes. Opening Year Conditions (2025) AM and PM peak hour intersection turning movement volumes are shown on Figure 21 and Figure 22.

### Opening Year Conditions With Project (2025)

Opening Year Conditions With Project (2025) volume forecasts were developed by adding project traffic to Opening Year Conditions (2025) forecast volumes. Opening Year Conditions With Project (2025) AM and PM peak hour intersection turning movement volumes are shown Figure 23 and Figure 24.

### Cumulative Conditions (2025)

Cumulative Conditions (2025) volume forecasts were developed by adding traffic generated from approved and pending development projects to Opening Year Conditions (2025) forecast volumes. Cumulative Conditions (2025) AM and PM peak hour intersection turning movement volumes are shown on Figure 25 and Figure 26.

### Cumulative Conditions With Project (2025)

Cumulative Conditions With Project (2025) volume forecasts were developed by adding project traffic to Cumulative Conditions (2025) forecast volumes. Cumulative Conditions With Project (2025) AM and PM peak hour intersection turning movement volumes are shown on Figure 27 and Figure 28.

## Table 4
## Other Development Trip Generation

| Map ID | Project Name | Land Use | Quantity | Units[1] | Trips Generated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | | PM Peak Hour | | | |
| | | | | | In | Out | Total | In | Out | Total | Daily |
| 1 | Highway 243 Industrial Center[2] | Light Industrial | 54.130 | TSF | | | | | | | |
| | | - Cars | | | 26 | 4 | 30 | 3 | 24 | 27 | 211 |
| | | - Trucks | | | 17 | 2 | 19 | 0 | 17 | 17 | 127 |
| 2 | TPM 35617[2] | Church | 4.990 | TSF | 29 | 26 | 55 | 26 | 29 | 55 | 237 |
| 3 | Lawrence Equipment[3] | Industrial | 146.890 | TSF | | | | | | | |
| | | - Cars | | | 39 | 12 | 51 | 17 | 39 | 56 | 370 |
| | | - Trucks | | | 10 | 4 | 14 | 4 | 10 | 14 | 94 |
| 4 | Downing Const. Corp[2] | Offiice | 9.320 | TSF | 9 | 2 | 11 | 2 | 9 | 11 | 91 |
| 5 | DR 18-7006[2] | Residential | 13 | DU | 2 | 7 | 9 | 8 | 5 | 13 | 123 |
| **Total** | | | | | **132** | **57** | **189** | **60** | **133** | **193** | **1,253** |

Notes:
(1) TSF = Thousand Square Feet; DU = Dwelling Units

(2) Source: *Traffic Impact Analysis for Highway 243 Industrial Center* (LSA, October 2019)

(3) Source: *Traffic Impact Report for Lawrence Equipment Warehouse* (Linscott, Law & Greenspan, Engineers, January 14, 2019)

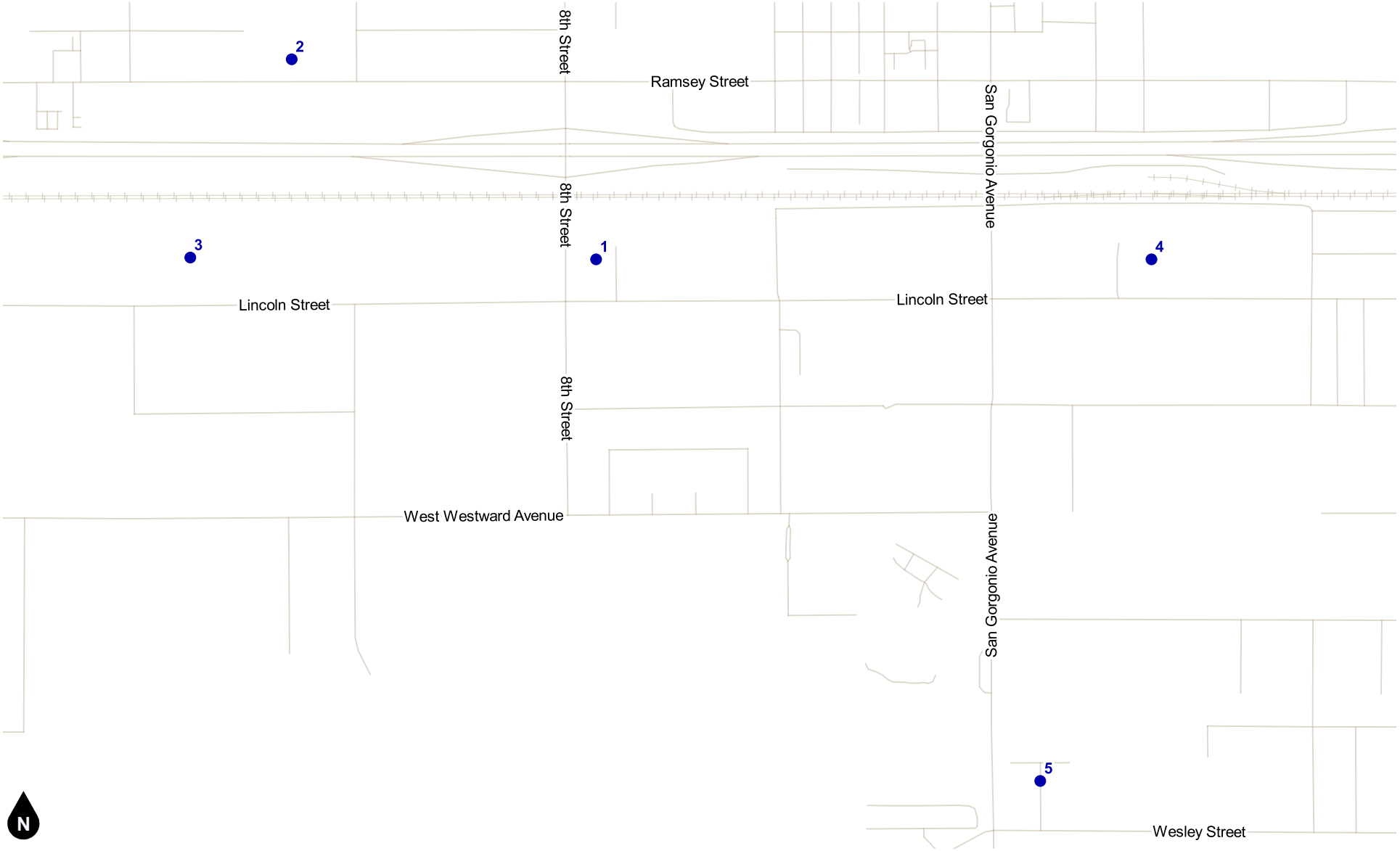
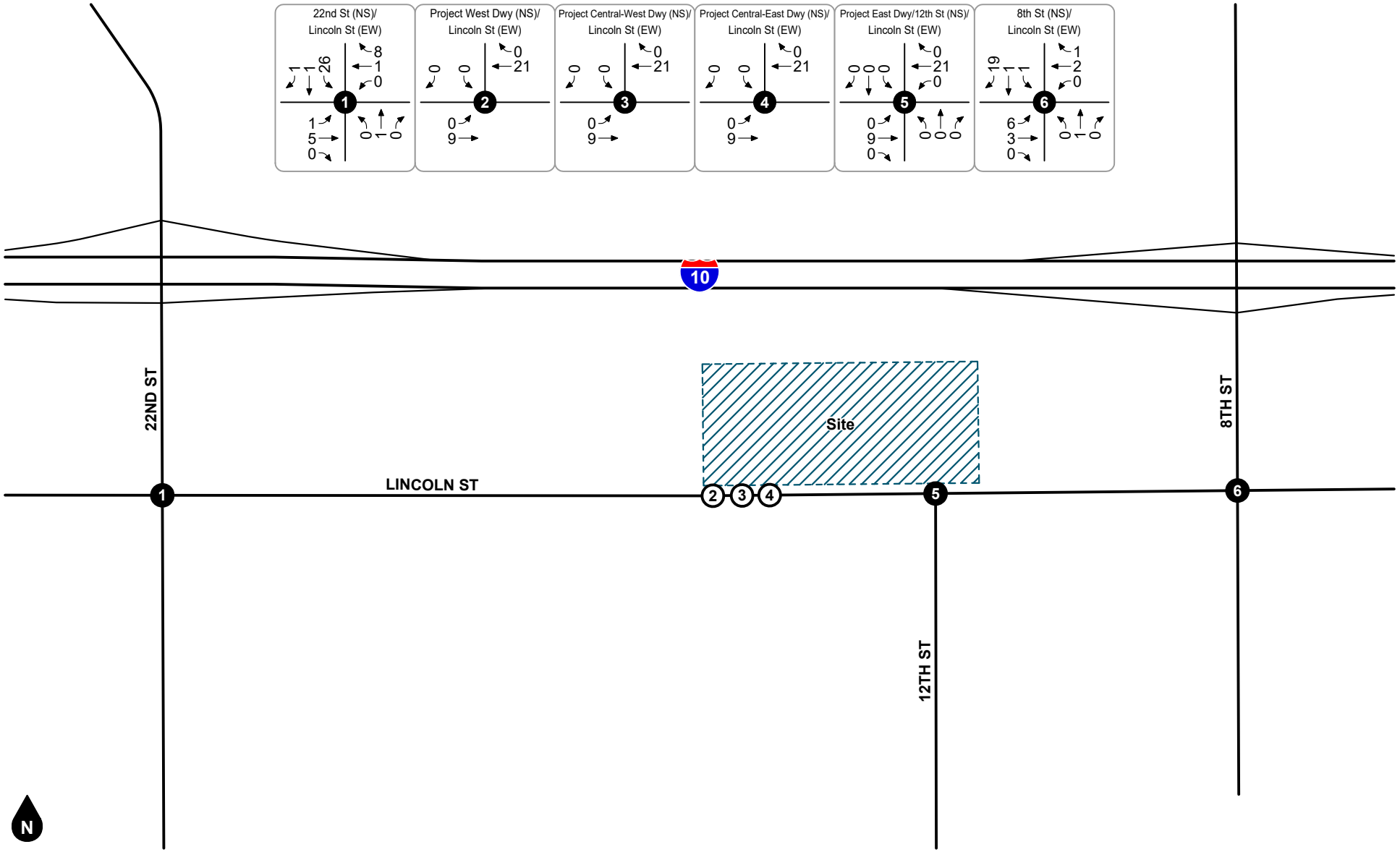



**Figure 18**
**Other Development Location Map**

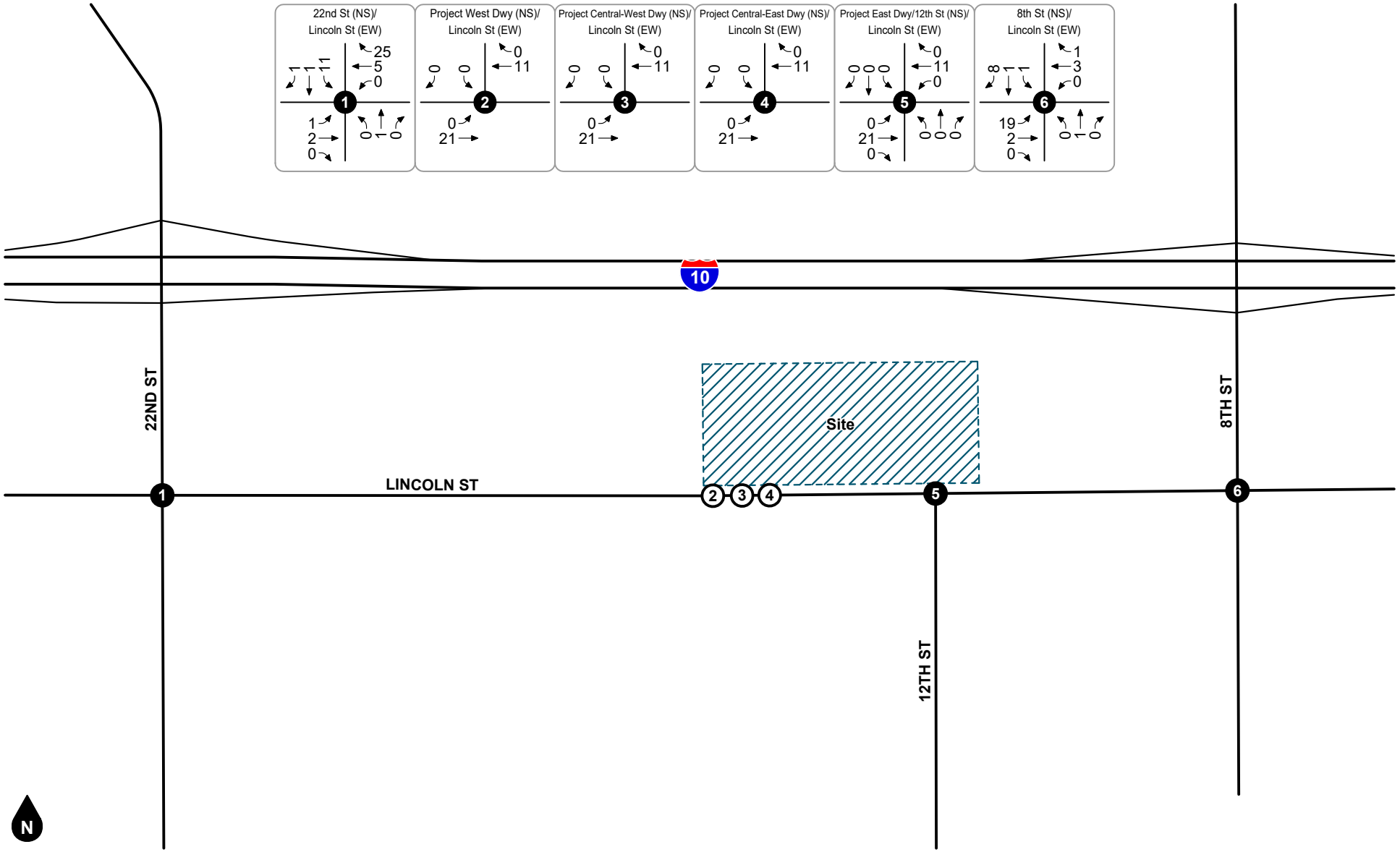



Legend

(#) Study Intersection

(#) Project Driveway

**Figure 19**
**Other Development**
**AM Peak Hour Intersection Turning Movement Volumes**

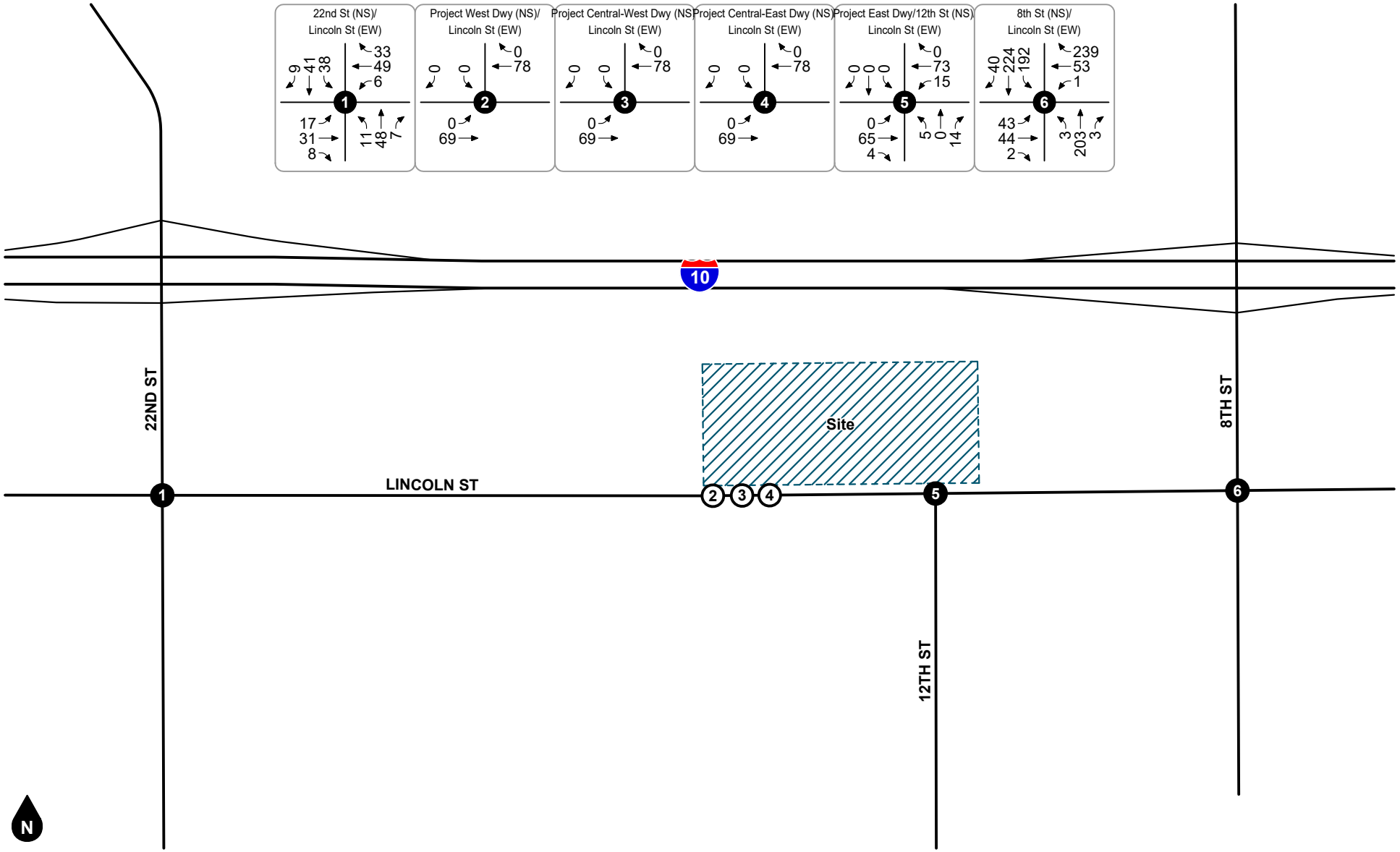



Legend

(#) Study Intersection

(#) Project Driveway

**Figure 20**
**Other Development**
**PM Peak Hour Intersection Turning Movement Volumes**




Legend

# Study Intersection

(#) Project Driveway

**Figure 21**
**Opening Year Conditions (2025)**
**AM Peak Hour Intersection Turning Movement Volumes**

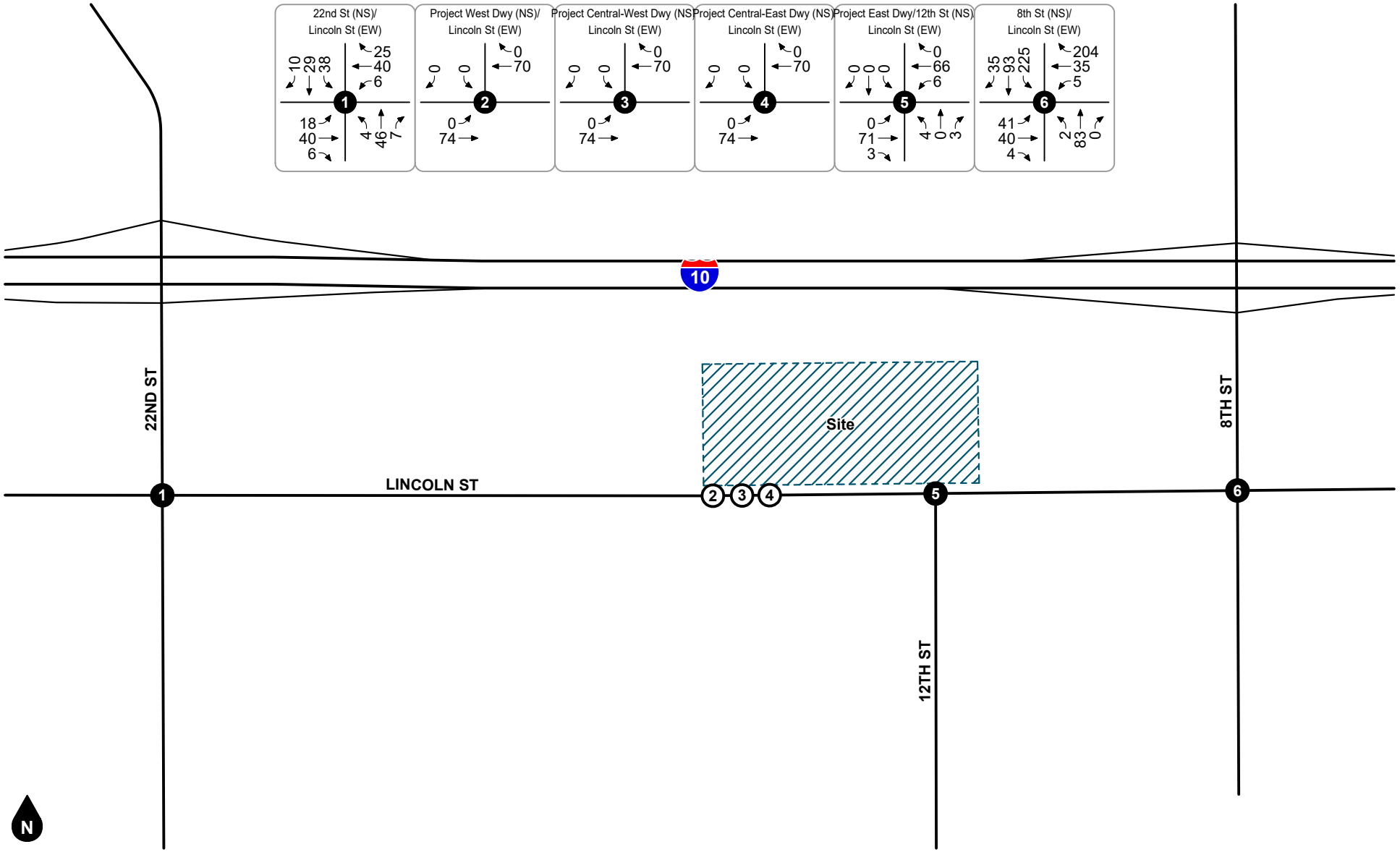
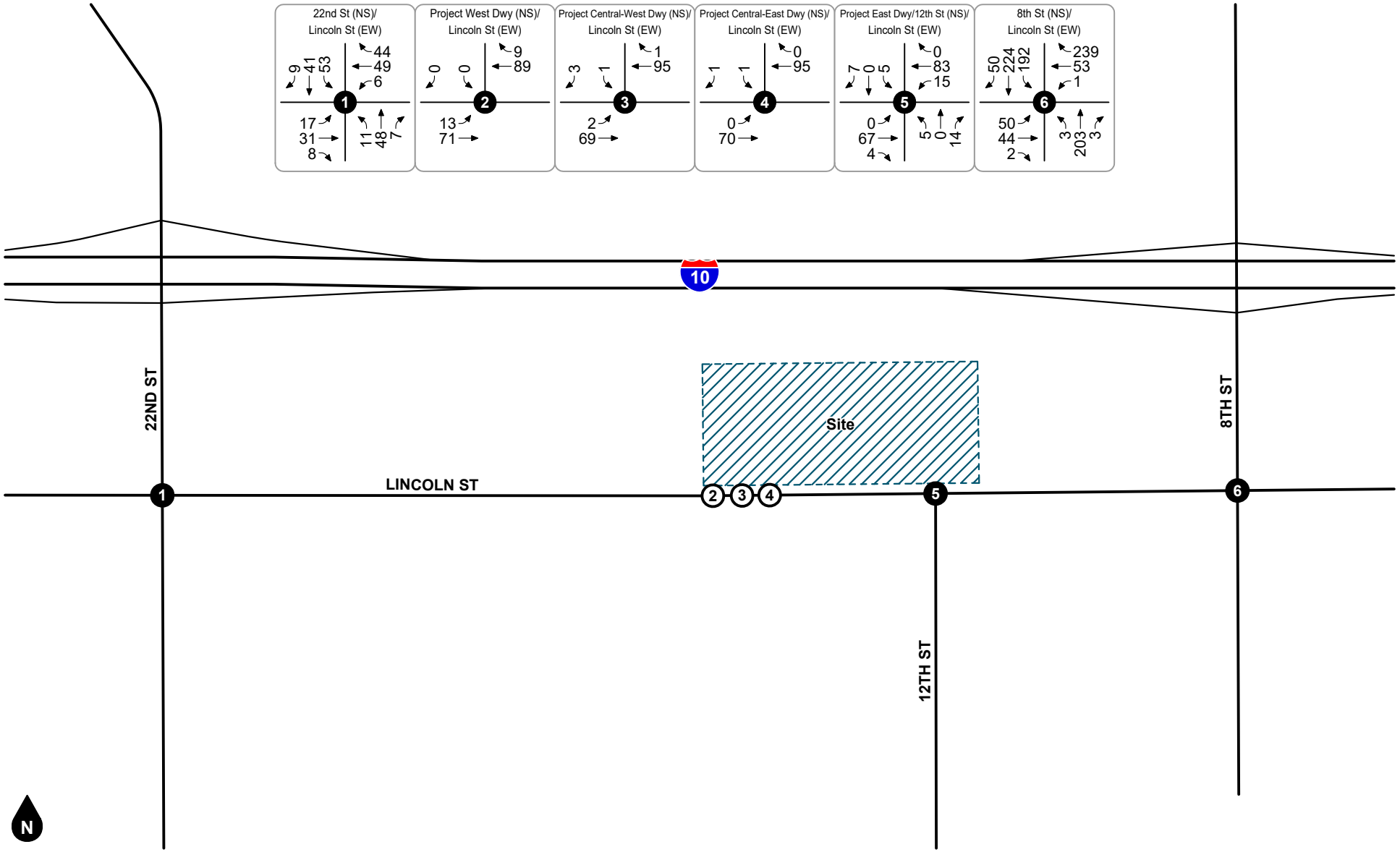



**Figure 22**
**Opening Year Conditions (2025)**
**PM Peak Hour Intersection Turning Movement Volumes**

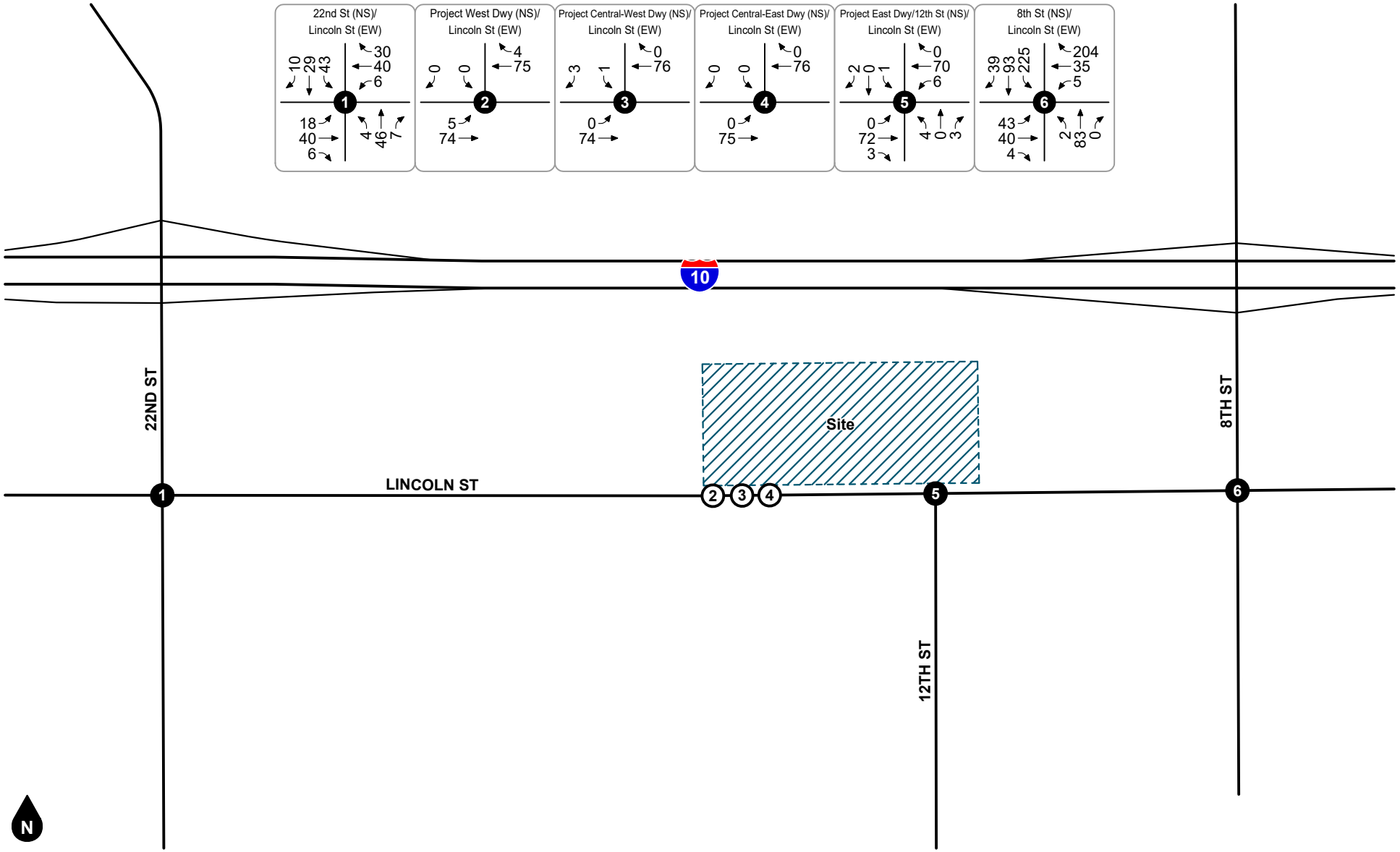



Legend

# Study Intersection

(#) Project Driveway

**Figure 23**
**Opening Year Conditions With Project (2025)**
**AM Peak Hour Intersection Turning Movement Volumes**

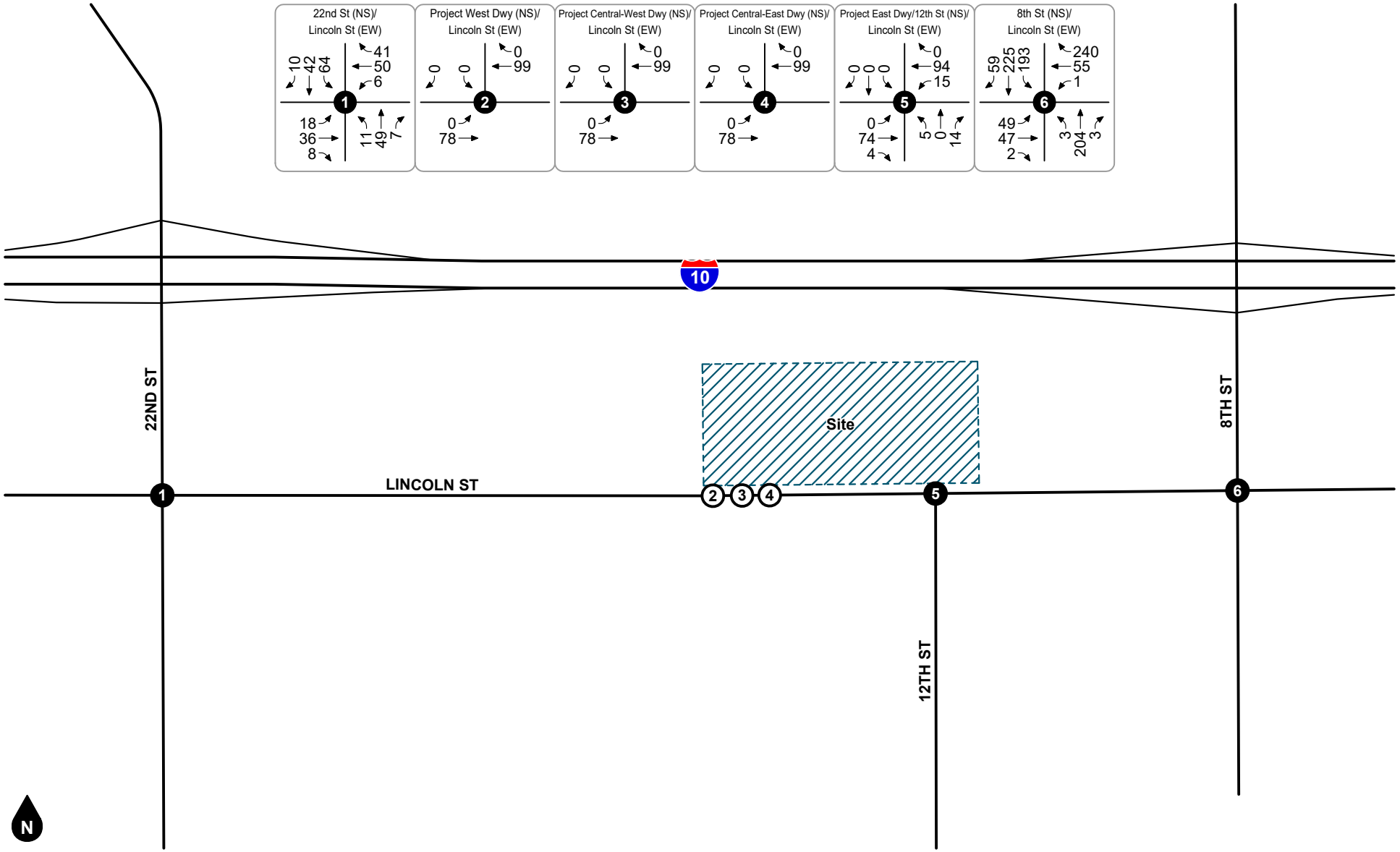



Legend

# Study Intersection

(#) Project Driveway

**Figure 24**
**Opening Year Conditions With Project (2025)**
**PM Peak Hour Intersection Turning Movement Volumes**




Legend

# Study Intersection

(#) Project Driveway

**Figure 25**
**Cumulative Conditions (2025)**
**AM Peak Hour Intersection Turning Movement Volumes**

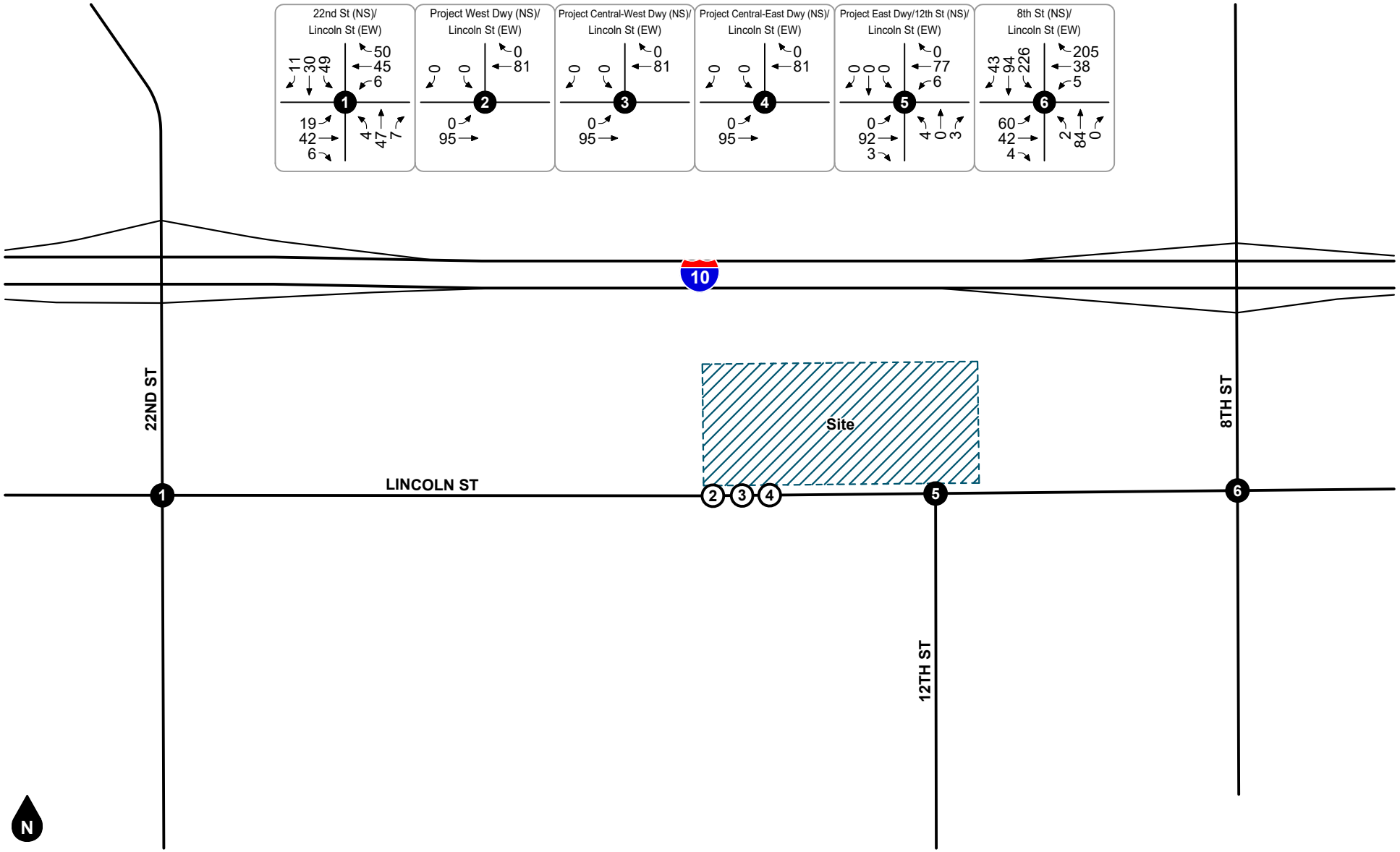



**Figure 26**
**Cumulative Conditions (2025)**
**PM Peak Hour Intersection Turning Movement Volumes**

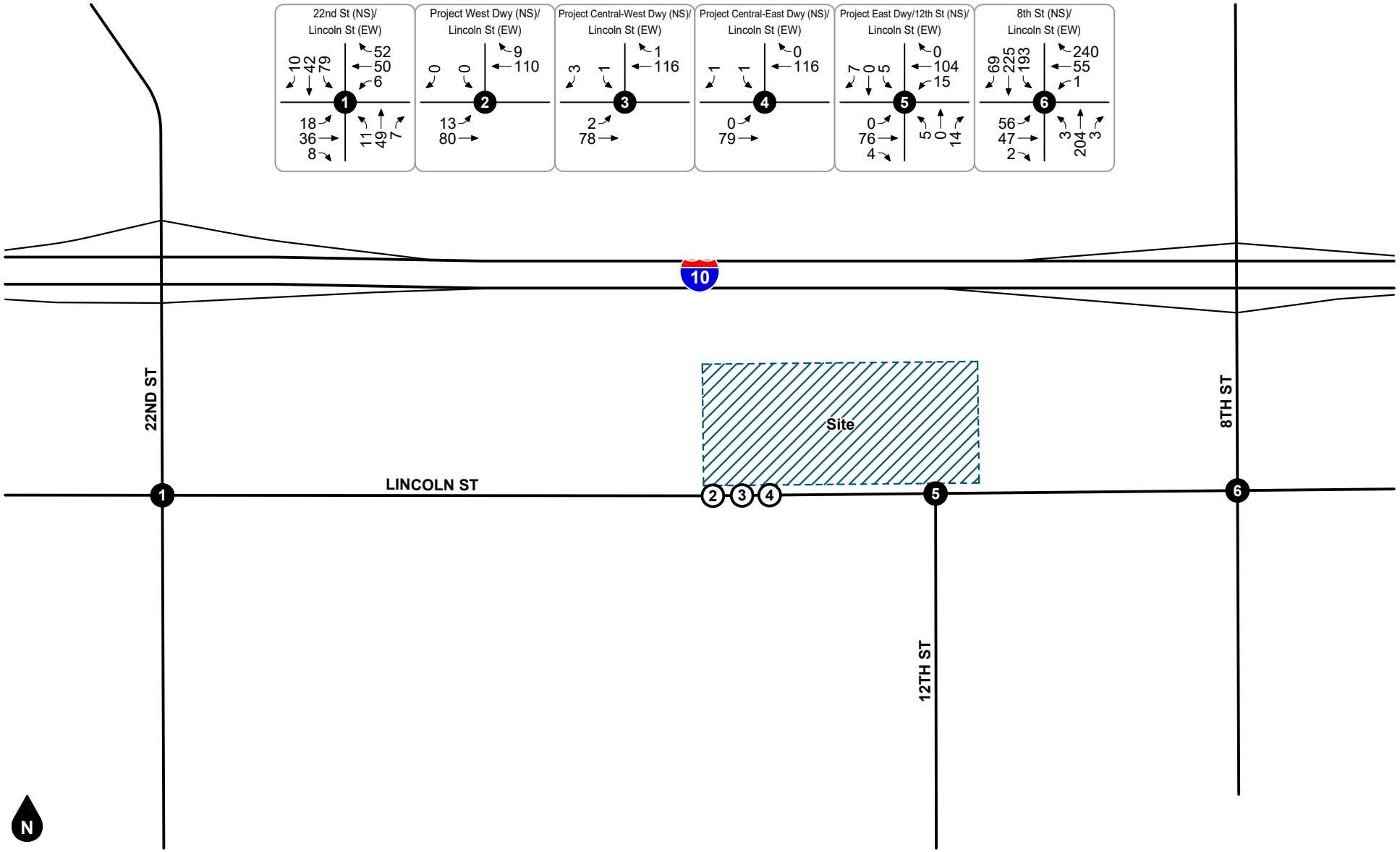
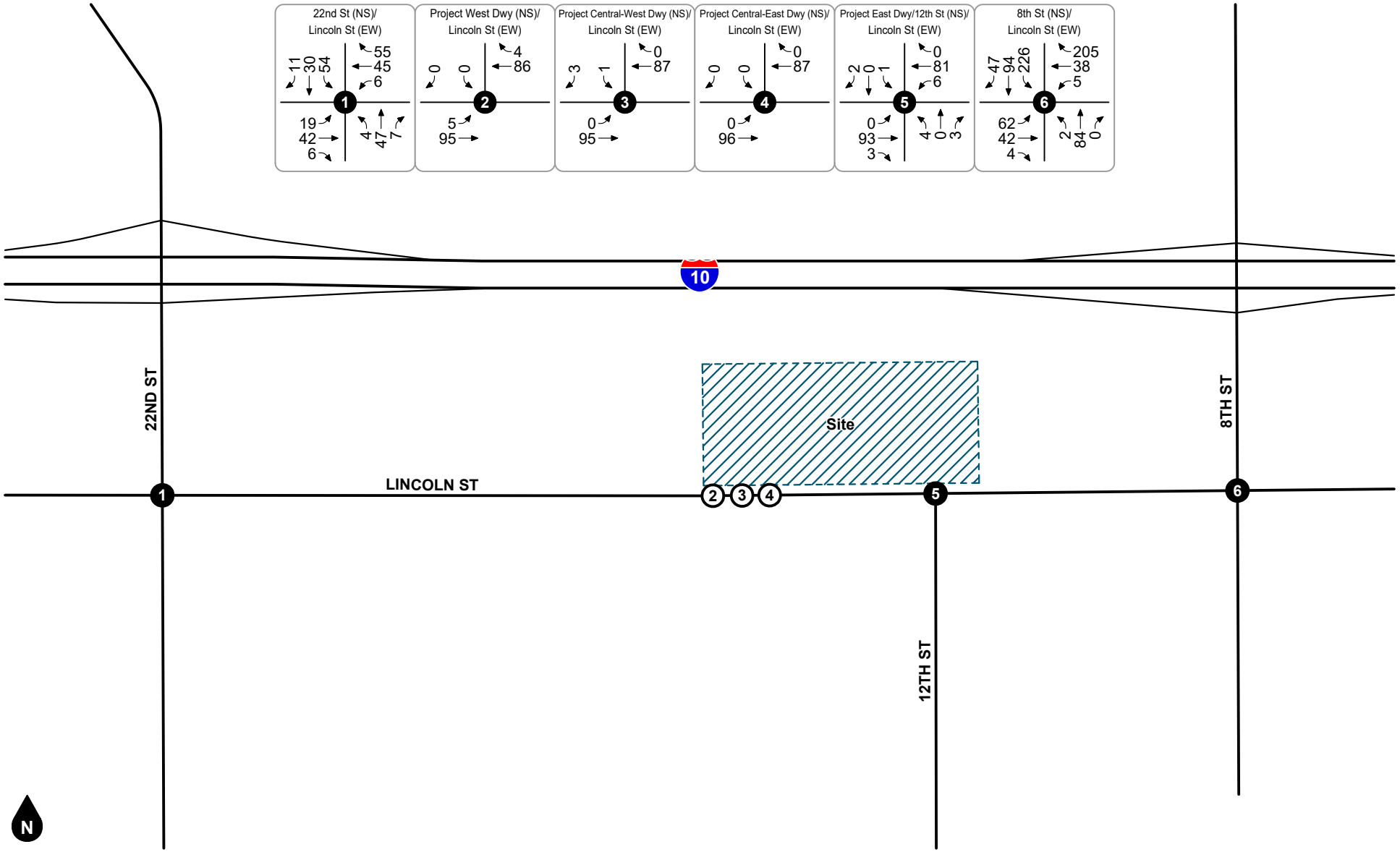



**Figure 27**
**Cumulative Conditions With Project (2025)**
**AM Peak Hour Intersection Turning Movement Volumes**




Legend

# Study Intersection

(#) Project Driveway

**Figure 28**
**Cumulative Conditions With Project (2025)**
**PM Peak Hour Intersection Turning Movement Volumes**

# 6. FUTURE OPERATIONAL ANALYSIS

Detailed intersection Level of Service calculation worksheets for each of the following analysis scenarios are provided in Appendix D.

### OPENING YEAR CONDITIONS (2025)

The intersection Levels of Service for Opening Year Conditions (2025) are shown in Table 5. As shown in Table 5, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year Conditions (2025), except for the following study intersection that is forecast to operate at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The intersection Levels of Service for Opening Year Conditions With Project (2025) are also shown in Table 5.. As shown in Table 5, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year Conditions With Project (2025), except for the following study intersection that is forecast to continue operating at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

As also shown in Table 5, the addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Opening Year Conditions With Project (2025).

### CUMULATIVE CONDITIONS (2025)

The intersection Levels of Service for Cumulative Conditions (2025) are shown in Table 6. As shown in Table 6, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Cumulative Conditions (2025), except for the following study intersection that is forecast to operate unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The intersection Levels of Service for Cumulative Conditions With Project (2025) are also shown in Table 6. As shown in Table 6, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Cumulative Conditions With Project (2025), except for the following study intersection that is forecast to operate at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

As also shown in Table 6, the addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Cumulative Conditions With Project (2025).

**Table 5**
**Opening Year Conditions (2025) Intersection Levels of Service**

| Study Intersection | Traffic Control[1] | Without Project | | | | With Project | | | | Net Change | | Substantial Impact? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | PM Peak Hour | |
| | | Delay[2] | LOS[3] | Delay[2] | LOS[3] | Delay[2] | LOS[3] | Delay[2] | LOS[3] | | | |
| 1. 22nd St at Lincoln St | AWS | 8.0 | A | 7.9 | A | 8.2 | A | 7.9 | A | +0.2 | 0 | No |
| 2. Project West Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 9.2 | A | 9.0 | A | n/a | n/a | No |
| 3. Project Central-West Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 8.9 | A | 8.8 | A | n/a | n/a | No |
| 4. Project Central-East Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 9.1 | A | 9.0 | A | n/a | n/a | No |
| 5. Project East Dwy/12th St at Lincoln St | CSS | 9.0 | A | 9.2 | A | 9.3 | A | 9.3 | A | +0.3 | +0.1 | No |
| 6. 8th St at Lincoln St | AWS | 39.7 | E | 13.0 | B | 40.4 | E | 13.0 | B | +0.7 | 0 | No |

Notes:

(1) AWS = All Way Stop; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach or major street left turn movement.

(3) LOS = Level of Service

**Table 6**
**Cumulative Conditions (2025) Intersection Levels of Service**

| Study Intersection | Traffic Control[1] | Without Project | | | | With Project | | | | Net Change | | Substantial Impact? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | PM Peak Hour | |
| | | Delay[2] | LOS[3] | Delay[2] | LOS[3] | Delay[2] | LOS[3] | Delay[2] | LOS[3] | | | |
| 1. 22nd St at Lincoln St | AWS | 8.3 | A | 8.0 | A | 8.4 | A | 8.1 | A | +0.1 | +0.1 | No |
| 2. Project West Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 9.3 | A | 9.1 | A | n/a | n/a | No |
| 3. Project Central-West Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 9.1 | A | 8.9 | A | n/a | n/a | No |
| 4. Project Central-East Dwy at Lincoln St | CSS | n/a | n/a | n/a | n/a | 9.2 | A | 9.1 | A | n/a | n/a | No |
| 5. Project East Dwy/12th St at Lincoln St | CSS | 9.2 | A | 9.5 | A | 9.5 | A | 9.5 | A | +0.3 | 0 | No |
| 6. 8th St at Lincoln St | AWS | 41.5 | E | 13.3 | B | 42.3 | E | 13.3 | B | +0.8 | 0 | No |

Notes:

(1) AWS = All Way Stop; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach or major street left turn movement.

(3) LOS = Level of Service

# 7. GENERAL PLAN AMENDMENT ANALYSIS

The project involves a General Plan Amendment/Zone Change for a portion of the site from Industrial (I) and General Commercial (CC) to Industrial (I). This section evaluates whether the proposed General Plan Amendment has the potential to exceed impacts associated with buildout of the current General Plan.

### GENERAL PLAN BUILDOUT TRIP GENERATION COMPARISON

The project is composed of the following three parcels:

- APN 540-190-020 (2.45 acres): Currently designated Industrial (I) - no change proposed
- APN 540-180-026 (8.17 acres): Currently designated Industrial (I) - no change proposed
- APN 540-180-022 (4.30 acres): Currently designated General Commercial (GC) - proposed amendment to Industrial (I)

Table 7 shows a trip generation comparison between maximum buildout potential of the existing General Commercial (GC) and proposed Industrial (I) land use designations based on rates obtained from the ITE *Trip Generation Manual* (11th Edition, 2021). Based on review of the ITE land use description, trip generation rates for shopping plaza (40k-159k) (Land Use Code 821) and general light industrial (Land Use Code 110) were determined to adequately represent the existing and proposed land use designations and were selected for use in this analysis. These land use codes most closely correspond with the General Plan land use designations. The trip generation forecast is determined by multiplying the trip generation rates by the land use quantities.

As shown in Table 7, maximum buildout under the existing General Commercial (GC) land use designation is estimated to generate approximately 6,195 daily trips, including 231 trips during the AM peak hour and 592 trips during the PM peak hour. Maximum buildout under the proposed Industrial (I) land use designation is estimated to generate approximately 547 daily trips, including 83 trips during the AM peak hour and 73 trips during the PM peak hour. Therefore, the proposed General Plan Amendment for APN 540-180-022 is expected to result in approximately 5,648 fewer daily trips generated compared to maximum buildout under the existing General Commercial (GC) land use designation, including 148 fewer trips during the AM peak hour and 519 fewer trips during the PM peak hour.

### GENERAL PLAN BUILDOUT ANALYSIS FINDINGS

Since maximum potential buildout of APN 540-180-022 is forecast to generate fewer trips with the proposed Industrial (I) land use designation compared to the existing General Commercial (GC) land use designation, the proposed General Plan Amendment would not exceed impacts associated with buildout of the current General Plan.

## Table 7
## General Plan Amendment Trip Generation Comparison

| Trip Generation Rates | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Unit[2] | % In | % Out | Rate | % In | % Out | Rate | Daily |
| Shopping Plaza (40-150k) | ITE 821 | TSF | 62% | 38% | 3.53 | 48% | 52% | 9.03 | 94.49 |
| General Light Industrial | ITE 110 | TSF | 88% | 12% | 0.74 | 14% | 86% | 0.65 | 4.87 |

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Quantity[3] | Unit[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Land Use | | | | | | | | | |
| Shopping Plaza (40-150k) | 65.558 | TSF | 143 | 88 | 231 | 284 | 308 | 592 | 6,195 |
| Proposed Land Use | | | | | | | | | |
| General Light Industrial | 112.385 | TSF | 73 | 10 | 83 | 10 | 63 | 73 | 547 |
| **NET PROJECT TRIPS GENERATED** | | | **-70** | **-78** | **-148** | **-274** | **-245** | **-519** | **-5,648** |

Notes:

(1) ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code

(2) TSF = Thousand Square Feet (Gross Floor Area)

(3) The City of Banning Municipal Code Table 17.12.030 states that General Commercial (GC) has a maximum building coverage of 35% and Industrial (I) has a maximum building coverage of 60%. Parcel 540-180-022 is zoned as General Commercial (GC) and is 4.3 acres (187,308 square feet). This zone at a maximum of 35% General Commercial (GC) equates to 65,558 square feet and at a maximum of 60% Industrial (I)equates to 112,385 square feet.

# 8. SITE ACCESS AND CIRCULATION

This section includes a description of project improvements necessary to provide site access.

### PROJECT DESIGN FEATURES

This analysis assumes the following improvements will be constructed by the project to provide project site access, as necessary based on the City of Banning General Plan classification for Lincoln Street as a Major Highway or Arterial Highway (100 to 110-foot right-of-way):

- Project West Driveway (NS) at Lincoln Street (EW) [Study Intersection #2]
  - Construct one inbound lane for truck ingress only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project Central-West Driveway (NS) at Lincoln Street (EW) [Study Intersection #3]
  - Construct one inbound lane and one outbound lane with southbound stop-control for passenger car access only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project Central-East Driveway (NS) at Lincoln Street (EW) [Study Intersection #4]
  - Construct one outbound lane with southbound stop-control for truck egress only
  - Eastbound: one shared through/left turn lane
  - Westbound: one shared through/right turn lane

- Project East Driveway/12th Street (NS) at Lincoln Street (EW) [Study Intersection #5]
  - Construct one outbound lane with southbound stop-control for truck egress only
  - Northbound: one shared left/through/right turn lane
  - Eastbound: one shared left/through/right turn lane
  - Westbound: one shared left/through/right turn lane

This analysis also assumes the project shall comply with the following or similar conditions as part of the City of Banning standard development review process:

- A construction work site traffic control plan shall comply with State standards set forth in the California Manual of Uniform Traffic Control Devices and shall be submitted to the City for review and approval prior to the issuance of a grading permit or start of construction. The plan shall identify any roadway, sidewalk, bike route, or bus stop closures and detours as well as haul routes and hours of operation. All construction related trips shall be restricted to off-peak hours to the extent possible.

- All on-site and off-site roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project shall be constructed in accordance with applicable State/Federal engineering standards to the satisfaction of the City of Banning.

- Site-adjacent roadways shall be constructed or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Banning.

- Adequate emergency vehicle access shall be provided to the satisfaction of the Riverside County Fire Authority.

- The final grading, landscaping, and street improvement plans shall demonstrate that sight distance requirements are met in accordance with applicable City of Banning/California Department of Transportation sight distance standards.

### TRUCK TURNING TEMPLATES

Truck turning path analysis for trucks entering/exiting the project site driveways on Lincoln Street is provided in Appendix F. Based on the truck turning path analysis, the project driveways are expected to adequately accommodate truck turning movements to/from Lincoln Street.

### ACCESS GATE QUEUING ANALYSIS

Queuing at the proposed access gate on the westernmost truck ingress only driveway was evaluated to ensure adequate storage lengths are provided and vehicle queues do not overflow into the public right-of-way or obstruct on-site circulation.

The gate queueing analysis was performed based on procedures outlined in *Transportation and Land Development* (Institute of Transportation Engineers, 1988). The methodology estimates the number of queued vehicles at a service point based on a Poisson distribution for estimating the effect of surges and random arrivals. Additional inputs include the demand rate, number of service lanes, service rate, and the desired confidence interval. Service rate capacities determined from *Entrance-Exit Design and Control for Major Parking Facilities* (Crommelin, 1972). A 95 percent confidence interval was used to determine the queue that is not exceeded five times out of 100 intervals. Demand flow is based on the number of inbound truck vehicle trips (i.e., non-PCE). The queue length for the service position (i.e., first truck checking in with the guard) is evaluated as 100 feet for extra spacing from the gate, followed by 80 feet of queue for each subsequent truck waiting in the queue (i.e., approximately 6 feet of spacing between each truck). Detailed worksheets are provided in Appendix G.

Table 8 summarizes the access gate queuing analysis for the inbound Project West Driveway on Lincoln As shown in Table 8, the access gate entrance provides approximately 25 feet of storage length from Lincoln Street, which is insufficient to accommodate the forecast queue length of 100 feet (approximately one truck) during the peak hours. The gate exits at the other project driveways provide lengthy drive aisles, which are sufficient to accommodate internal truck queuing for exiting trucks during the peak hours.

It is recommended that the entrance gate at the Project West Driveway is either moved north into the project site to allow for at least 100 feet of queuing capacity from Lincoln Street or always remain open during operating hours so that trucks do not need to wait for the gate to open.

### DRIVEWAY SPACING ANALYSIS

Figure 29 shows the distance between project driveways. The central-west project driveway is located approximately 133 feet from the westernmost inbound truck only driveway and 115 feet from the outbound truck only driveway. The easternmost project driveway aligns with 12th Street and is proposed to provide truck egress only. Based on the relatively low turning movement volumes generated by the project, separation of passenger car and truck accesses, and separation of inbound and outbound trucks, the proposed project driveways are expected to function adequately.

**Table 8**
**Access Gate Queuing Analysis**

| Gate / Peak Hour | Demand Flow (veh/hr) | Service Lanes | Service Rate Capacity (veh/hr/ln) | Utilization Factor | Queue Length (feet) | Storage Length (feet) | Adequate Storage Provided |
|---|---|---|---|---|---|---|---|
| Entering | | | | | | | |
| Project West Driveway | | | | | | | |
| AM Peak Hour | 9 | 1 | 195 | 0.05 | 100 | 25 | No |
| PM Peak Hour | 6 | 1 | 195 | 0.03 | 100 | 25 | No |

Notes:

(1) Based on Transportation and Land Development (Institute of Transportation Engineers, 1988) "Applications of Queuing Analysis"; see Appendix G.

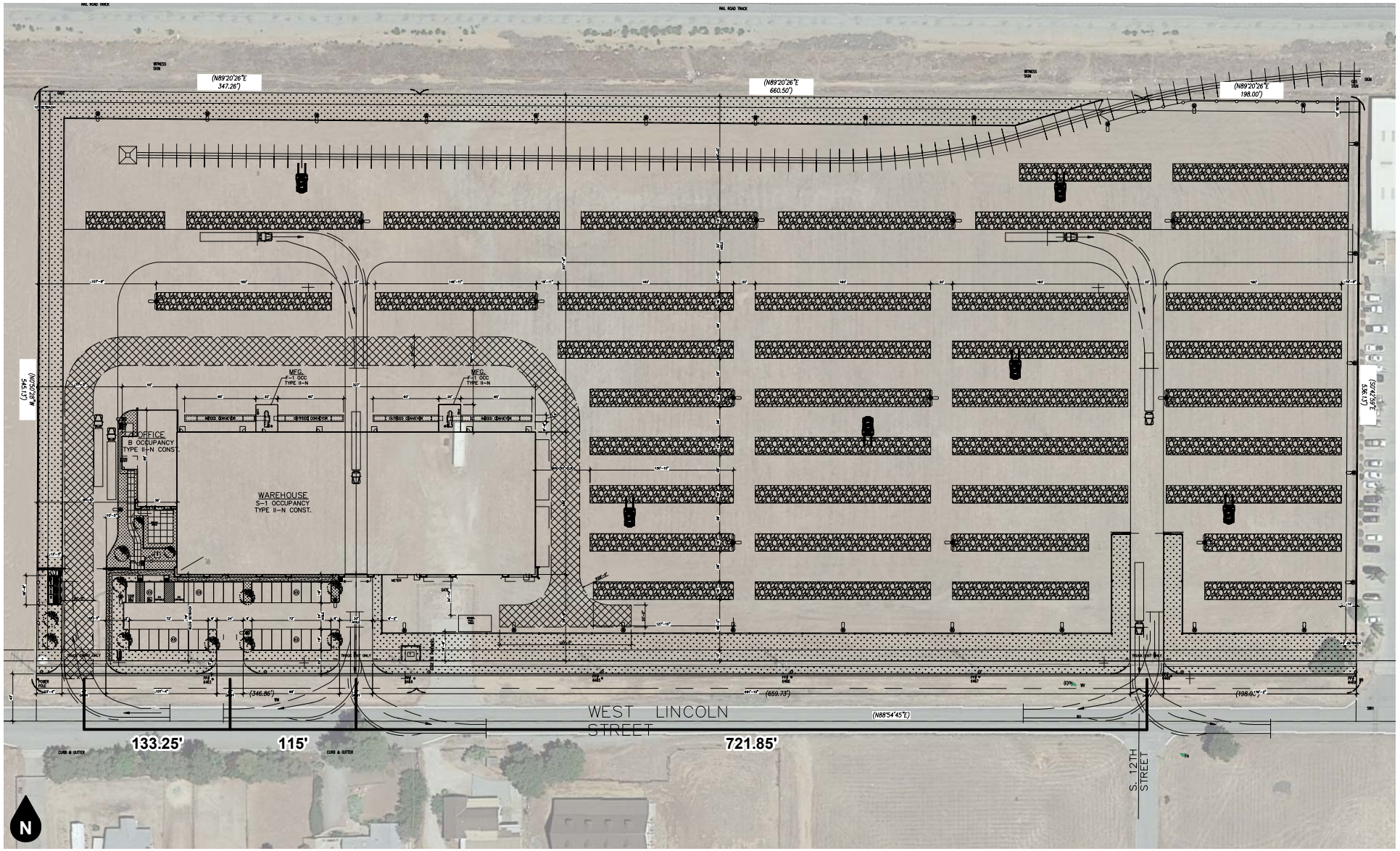



**Figure 29**
**Project Driveway Spacing**

# 9. CONCLUSIONS

This section summarizes the findings and recommended improvements, or mitigation measures (if any) identified in previous sections of this study.

### PROJECT TRIP GENERATION

The existing Brown Strauss facility currently generates approximately 191 daily vehicle trips, including 22 vehicle trips during the AM peak hour and 10 vehicle trips during the PM peak hour. The existing Brown Strauss facility currently generates approximately 343 daily PCE trips, including 43 PCE trips during the AM peak hour and 16 PCE trips during the PM peak hour.

The existing Brown Strauss Steel operation located at 14970 Jurupa Avenue in the City of Fontana will be closed with operations moved to this City of Banning location. The City of Fontana location is 23.0-acres which is larger than the 14.92-acre project site. This traffic impact analysis uses the trip generation for the 23-acre site without adjustment for the proposed 14.92-acre site. This will provide for a conservative analysis while conforming with the intent that the project is moving operations and operations will remain similarly to existing status, even if the new location has a smaller square footage.

### LEVELS OF SERVICE/OPERATIONAL ANALYSIS FINDINGS (NON-CEQA)

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year Conditions With Project (2025), except for the following study intersection that is forecast to continue operating at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Opening Year Conditions With Project (2025).

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Cumulative Conditions With Project (2025), except for the following study intersection that is forecast to operate at unacceptable Levels of Service (E or F):

- 8th Street (NS) at Lincoln Street (EW) - #6 (LOS E - AM)

The addition of project trips does not cause the net change in delay at the study intersections to exceed the City-established criteria; therefore, the proposed project is forecast to cause no substantial operational deficiencies at the study intersections for Cumulative Conditions With Project (2025).

### GENERAL PLAN AMENDMENT ANALYSIS

Since maximum potential buildout of APN 540-180-022 is forecast to generate fewer trips with the proposed Industrial (I) land use designation compared to the existing General Commercial (GC) land use designation, the proposed General Plan Amendment would not exceed impacts associated with buildout of the current General Plan.

## SITE ACCESS & CIRCULATION

It is recommended that the entrance gate at the Project West Driveway is either moved north into the project site to allow for at least 100 feet of queuing capacity from Lincoln Street or always remain open during operating hours so that trucks do not need to wait for the gate to open.

Based on the relatively low turning movement volumes generated by the project, separation of passenger car and truck accesses, and separation of inbound and outbound trucks, the proposed project driveways are expected to function adequately.

# APPENDICES

Appendix A Glossary
Appendix B Scoping Agreement
Appendix C Volume Count Worksheets
Appendix D Level of Service Worksheets
Appendix E Existing Facility Trip Generation Worksheets
Appendix F Project Site Plan
Appendix G Access Gate Queuing Worksheet

# APPENDIX A

# GLOSSARY

## ACRONYMS

| | |
|---|---|
| **AC** | Acres |
| **ADT** | Average Daily Traffic |
| **Caltrans** | California Department of Transportation |
| **DU** | Dwelling Unit |
| **ICU** | Intersection Capacity Utilization |
| **GFA** | Gross Floor Area |
| **LOS** | Level of Service |
| **PCE** | Passenger Car Equivalent |
| **SP** | Service Population |
| **TSF** | Thousand Square Feet |
| **V/C** | Volume/Capacity |
| **VMT** | Vehicle Miles Traveled |

## TERMS

**ACTUATED SIGNAL CONTROL**: A type of traffic signal control in which display of each phase depends on whether the corresponding phase detector has registered a service call or the phase is on recall.

**ACTUATION**: Detection of a roadway user that is forwarded to the signal controller.

**AVERAGE DAILY TRAFFIC**: The average 24-hour volume for a stated period divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.

**BANDWIDTH:** The number of seconds of green time available for through traffic in a signal progression.

**BOTTLENECK**: A point of constriction along a roadway that limits the amount of traffic that can proceed downstream from its location.

**CALL**: An indication within a signal controller that a particular phase is waiting for service, either through actuation from a roadway user or phase recall.

**CAPACITY**: The maximum number of vehicles that can be reasonably expected to pass through a roadway facility during a specified period.

**CHANNELIZATION:** The separation of conflicting traffic movements by use of pavement markings, raised curbs, or other suitable means to facilitate free flow movement.

**CLEARANCE INTERVAL**: Equal to the yellow plus all-red time, if any, when a traffic signal changes between phases (i.e., the amount of time between the end of a green light from one movement to the beginning of a green light for the next).

**COORDINATED SIGNAL CONTROL**: A type of traffic signal control in which non-coordinated phases associated with minor movements are constrained such that the coordinated phases are served at a specific time during the signal cycle, thus maintaining the efficient progression of traffic flow along the major roadway.

**CONTROL DELAY**: The portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign). It includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay.

**CORDON**: An imaginary boundary line around or across a study area across which vehicles, persons, or other information can be collected for survey and analytical purposes.

**CORNER SIGHT DISTANCE**: The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic traveling at a given speed to radically alter their speed or trajectory.

**CYCLE**: A complete sequence of signal indications for all phases.

**CYCLE LENGTH**: The total time for a traffic signal to complete one full cycle.

**DAILY CAPACITY**: A theoretical value representing the daily traffic volume that will typically result in a peak hour volume equal to the capacity of the roadway.

**DELAY:** The total additional travel time experienced by a roadway user (driver, passenger, bicyclist, or pedestrian) beyond that required to travel at a desired speed.

**DENSITY**: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

**DETECTOR:** A device used to count or determine the presence of a roadway user.

**DESIGN SPEED**: A speed used for purposes of designing horizontal and vertical alignments of a highway.

**DIRECTIONAL SPLIT**: The percent of two-way traffic traveling in a specified direction.

**DIVERSION:** The rerouting of traffic from a normal path of travel between two points, such as to avoid congestion or perform a secondary trip.

**FREE FLOW**: Traffic flow that is unaffected by a traffic control and/or or upstream or downstream conditions.

**GAP:** Time or distance between two vehicles measured from rear bumper of the front vehicle to front bumper of the second vehicle.

**GAP ACCEPTANCE:** The method by which a driver accepts an available gap in traffic to enter or cross the road.

**HEADWAY:** Time or distance between two successive vehicles measured from same point on both vehicles (i.e., front bumper to front bumper).

**LEVEL OF SERVICE**: A grading scale of quantitative performance measures representing the quality of service of a transportation facility or service from an average traveler's perspective.

**LOOP DETECTOR**: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

**MULTI-MODAL**: More than one mode, such as automobile, transit, bicycle, and pedestrian.

**OFFSET**: The time interval between the beginning of a traffic signal cycle at one intersection and the beginning of signal cycle an adjacent intersection.

**PLATOON:** A set of vehicles traveling at similar speed and moving as a general group with clear separation between other vehicles ahead and behind.

**PASSENGER CAR EQUIVALENT**: A metric used to assess the impact of larger vehicles, such as trucks, recreational vehicles, and buses, by converting the traffic volume of larger vehicles to an equivalent number of passenger cars.

**PEDESTRIAN CLEARANCE INTERVAL**: Also known as the "Flashing Don't Walk" interval, it signals the end of pedestrian entry into the crosswalk following the "Walk" indication and provides time for pedestrians who have already entered the crosswalk to finishing crossing.

**PEAK HOUR**: The hour within a day in which the maximum volume occurs.

**PEAK HOUR FACTOR**: The peak hour volume divided by the four times the peak 15-minute flow rate. This

**PHASE**: In traffic signals, the green, yellow, and red clearance intervals assigned to a specified traffic movement.

**PRETIMED SIGNAL**: A traffic signal operation in which the cycle length, phasing sequence, and phasing times are predetermined and fixed, regardless of actual demand for any given traffic movement. Also known as a fixed time signal.

**PROGRESSION**: The coordinated movement of vehicles through signalized intersections along a corridor.

**QUEUE**: The number of vehicles waiting at a service area such as a traffic signal, stop sign, or access gate.

**QUEUE LENGTH**: The length of vehicle queue, typically expressed in feet, waiting at a service area such as a traffic signal, stop sign, or access gate.

**RECALL**: A signal phasing operation in which a specified phase places a call to the signal controller each time a conflicting phase is served, thus ensuring the specified phase will be serviced again.

**SEMI-ACTUATED CONTROL**: A type of traffic signal control in which only the minor movements are provided detection.

**SIGHT DISTANCE**: The continuous length of roadway visible to a driver or roadway user.

**STACKING DISTANCE**: The length of area available behind a service area, such as a traffic signal or gate, for vehicle queuing to occur.

**STOPPING SIGHT DISTANCE**: The minimum distance required by the driver of a vehicle traveling at a given speed to bring the vehicle to a stop after an object on the road becomes visible, including reaction and response time.

**TRIP OR TRIP END:** The one-directional movement of a person or vehicle. Every trip has an origin and a destination at its respective ends (i.e., trip ends). In terms of site trip generation, the same vehicle entering and exiting a site generates two trips: one inbound trip and one outbound trip.

**TRIP GENERATION RATE:** The rate at which a land use generates trips per the specified land use variable, such per dwelling unit or per thousand square feet.

**TRUCK:** A heavy motor vehicle generally used for transporting goods.

**VEHICLE MILES TRAVELED**: A measure of the amount and distance of automobile travel essentially calculated as the sum of each trip times the trip length.

# APPENDIX B

# SCOPING AGREEMENT

# TIA SCOPING FORM

This completed Scoping Form must be submitted to City staff for review before initiation of the TIA:

## Project Identification:

| | |
|---|---|
| Case Number: | |
| Related Cases: | |
| SP No. | |
| EIR No. | |
| GPA No. | |
| CZ No. | |
| Project Name: | Brown Strauss Banning Industrial |
| Project Opening Year: | 2025 |
| Project Description: | 14.92-acre steel distribution use |

| | Consultant | Developer |
|---|---|---|
| Name: | Ganddini Group, Inc. | Sagecrest Planning+Environmenta |
| Address: | 555 Parkcenter Dr., Suite 225<br>Santa Ana, CA 92705 | 27128 Paseo Espada, Suite 1524<br>San Juan Capistrano, CA 92675 |
| Telephone: | 714-795-3100 x 104 | 352-262-6323 |
| Fax/Email: | bryan@ganddini.com | kribuffo@sagecrestplanning.com |

## Trip Generation Information:

Source of Trip Generation Data: Traffic counts at similar facility

| Current General Plan Land Use | Proposed General Plan Land Use |
|---|---|
| Industrial/General Commercial | Industrial |
| **Current Zoning** | **Proposed Zoning** |
| Industrial/General Commercial | Industrial |

| | Existing Trip Generation | | | Proposed Trip Generation | | |
|---|---|---|---|---|---|---|
| | In | Out | Total | In | Out | Total |
| AM Peak Hour: | 0 | 0 | 0 | 25 | 18 | 43 |
| PM Peak Hour: | 0 | 0 | 0 | 9 | 7 | 16 |

Trip Internalization: __ Yes ✓ No _____ Percentage (if Yes)

Pass-By Allowance: __ Yes ✓ No _____ Percentage (if Yes)

Diverted Trips Allowance: __ Yes ✓ No _____ Percentage (if Yes)

**Potential Screening Checks:**

Is your project screened from a Local Transportation Analysis (LTA), pursuant to the criteria in Section 2.1 of the guidelines?

✓ Yes __ No

LTA Screening Justification:

~~Project generates less than 50 peak hour trips. However, the project is undertaking a General Plan Amendment.~~

Is your project screened from a VMT analysis, as per the criteria in Section 2.2 of the guidelines?

✓ Yes __ No

VMT Screening Justification:

~~A separate VMT Screening Assessment has been conducted for the project. The project satisfies the City-established screening criteria for projects forecast to generate fewer than 500 net daily trips.~~

### Level of Service Analysis Scoping:

Project Trip Distribution Percentages (Attach exhibit for detailed distribution):

| North | South | East | West |
|---|---|---|---|
| 0% | 0% | 40% | 60% |

- Attach list of Approved and Pending Projects that need to be considered (provided by City staff and adjacent jurisdictions)
- Attach list of study intersections/roadway segments
- Attach site plan
- Note other specific items to be addressed:
  a. Site access
  b. On-site circulation
  c. Parking
  d. Consistency with Plans supporting Bikes/Peds/Transit
  e. Other Included in attached MOU
- Date of Traffic Counts March 2023
- Attach proposed analysis scenarios (years plus proposed forecasting approach)
- Attach proposed phasing approach (if the project is phased)

### Vehicle Miles Traveled Analysis Scoping:

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used: _____
- Attach City of Banning VMT Screening Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

Any other specific issues to be addressed in the LTA or VMT analysis, apart from those stated in the Guidelines?

See attached MOU

# MEMORANDUM OF UNDERSTANDING

**TO:** CITY OF BANNING

**FROM:** Bryan Crawford, Senior Transportation Planner | GANDDINI GROUP, INC.

**DATE:** June 28, 2023

**SUBJECT:** Brown Strauss Banning Industrial Project Traffic Impact Analysis Scoping

## INTRODUCTION

The purpose of this traffic study scoping document is to outline the proposed traffic analysis parameters and assumptions for review/concurrence by City of Banning staff.

## PROJECT DESCRIPTION

Figure 1 shows the project location map. The project site is located at 1219 and 1431 West Lincoln Street (APNs 540-180-020, -022, and -026) in the City of Banning, as exhibited in Figure 2.

The site plan is shown in Appendix A. The 14.92-acre project site is proposed to be developed with a steel distribution use. The total development proposal includes a 45,000 square foot warehouse, a 3,000 square foot office, two 500 square foot enclosed saw sheds, and an outdoor storage yard. The proposed project is anticipated to be constructed and fully operational by year 2025. The project also involves a General Plan Amendment/Zone Change from Industrial (I) and General Commercial (CC) to Industrial (I).

The existing Brown Strauss Steel operation located at 14970 Jurupa Avenue in the City of Fontana will be closed with operations moved to this City of Banning location.

The project site is proposed to provide four access driveways on West Lincoln Street. The project west driveway will be a truck entrance only driveway. The project central-west driveway will be a full access automobile only driveway. The project central-east and east driveways will be truck exit only driveways.

## PROJECT TRIP GENERATION

To determine the existing trip generation at the project site, 24-hour inbound/outbound trip counts were taken at the project driveway for the existing Brown Strauss Steel location at 14970 Jurupa Avenue in the City of Fontana in 15-minute increments separating passenger cars and trucks by axle. These traffic counts were conducted on Tuesday, March 7, 2023, Wednesday, March 8, 2023, and Thursday, March 9, 2023. Count worksheets are included in Attachment A.

Table 1 shows the existing Brown Strauss facility inbound trips generated for each of the three days with the average of the three days of counts calculated.

Table 2 shows the existing Brown Strauss facility outbound trips generated for each of the three days with the average of the three days of counts calculated.

Table 3 shows the existing trips generated for the existing Brown Strauss facility using the average trips generated for AM peak hour, PM peak hour and Daily. The trips are separated between passenger cars and trucks by axle.

As shown in Table 3, the existing Brown Strauss facility currently generates approximately 191 daily vehicle trips, including 22 vehicle trips during the AM peak hour and 10 vehicle trips during the PM peak hour.

Truck Trips

In accordance with industry practice and City requirements for truck-oriented uses, the existing Brown Strauss facility trip generation was also calculated in terms of Passenger Car Equivalent (PCE) trips. Truck trips were converted to PCE trips based on the following factors recommended by the City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis (October 2021)*: 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with four or more axles.

As also shown in Table 3, the existing Brown Strauss facility currently generates approximately 343 daily PCE trips, including 43 PCE trips during the AM peak hour and 16 PCE trips during the PM peak hour.

Table 3 also shows the trips generated per acre for the 23.0-acre existing FedEx facility for informational purposes only.

The existing Brown Strauss Steel operation located at 14970 Jurupa Avenue in the City of Fontana will be closed with operations moved to this City of Banning location. The City of Fontana location is 23.0-acres which is larger than the 14.92-acre project site. Table 4 shows the project trip generation for the proposed project if the project trip generation were devised using trips generated by acre. This has been included for informational purposes only as the traffic impact analysis will use the greater trip generation when comparing site to site versus trip generation by acre. This will provide for a conservative analysis while conforming with the intent that the project is moving operations and operations will remain similarly to existing status, even if the new location has a smaller square footage.

## PROJECT TRIP DISTRIBUTION

Figure 3 to Figure 5 illustrate the forecast outbound and inbound directional distribution patterns of project-generated truck trips and passenger car trips.

## STUDY AREA

Based on the City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis (October 2021)* guidelines, intersections identified for analysis typically include signalized intersections at which a project is forecast to contribute 50 or more trips during the AM or PM peak hours. The study area is proposed to consist of the following six (6) study intersections, even if the project may not contribute 50 or more trips during either peak hour.

Study Intersections (Figure 1)

1. 22nd Street (NS) at Lincoln Street (EW)
2. Project West Driveway (NS) at Lincoln Street (EW)
3. Project Central-West Driveway (NS) at Lincoln Street (EW)
4. Project Central-East Driveway (NS) at Lincoln Street (EW)
5. Project East Driveway/12th Street (NS) at Lincoln Street (EW)
6. 8th Street (NS) at Lincoln Street (EW)

## TRAFFIC COUNTS

New intersection turning movement counts separating cars and trucks by axle will be collected at the study intersections during the AM peak period (7:00 AM – 9:00 AM) and PM peak period (4:00 PM – 6:00 PM) on a typical weekday (Tuesday, Wednesday, or Thursday).

## ANALYSIS SCENARIOS

The traffic study shall evaluate the following analysis scenarios for weekday AM and PM peak hour conditions:

- Existing Conditions [2023]
- Opening Year Conditions [2025]
- Opening Year Conditions With Project [2025]
- Cumulative Conditions [2025]
- Cumulative Conditions With Project [2025]
- Horizon Year Conditions [2045]
- Horizon Year Conditions With Project [2045]

## ANALYSIS METHODOLOGY

To assess the performance of an intersection, the City of Banning uses the intersection delay method based on procedures contained in the Highway Capacity Manual (Transportation Research Board, 6th Edition). The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service (LOS). Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to Level of Service based on the following thresholds:

| Level of Service | Intersection Control Delay (Seconds / Vehicle) | |
|---|---|---|
| | Signalized Intersection | Unsignalized Intersection |
| A | ≤ 10.0 | ≤ 10.0 |
| B | > 10.0 to ≤ 20.0 | > 10.0 to ≤ 15.0 |
| C | > 20.0 to ≤ 35.0 | > 15.0 to ≤ 25.0 |
| D | > 35.0 to ≤ 55.0 | > 25.0 to ≤ 35.0 |
| E | > 55.0 to ≤ 80.0 | > 35.0 to ≤ 50.0 |
| F | > 80.0 | > 50.0 |

Source: Transportation Research Board, Highway Capacity Manual (6th Edition).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, Level of Service is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), Level of Service is determined by the average control delay for the worst individual movement (or movements sharing a single lane).

Intersection Level of Service analysis shall be performed using the Vistro software.

## PERFORMANCE STANDARDS

The City of Banning has established LOS D as the minimum acceptable Level of Service along all City maintained roads (including intersections).

## OPERATIONAL THRESHOLDS

For study intersections within the City of Banning jurisdiction, a traffic impact occurs if:

a) The addition of project traffic causes the intersection LOS to degrade from acceptable LOS D or better to an unacceptable LOS E or F.

b) The addition of project traffic causes the peak hour delay to increase as follows:

- LOS A/B by 10 seconds;
- LOS C by 8 seconds;
- LOS D by 5 seconds;
- LOS E by 2 seconds;
- LOS F by 1 second

If either of the above conditions is satisfied, improvements should be identified that achieve the following:

- Improving traffic operations to LOS D for case a, above.
- Improving traffic operations to offset the increase in delay for case b, above.

If a project is forecast to cause an operational traffic impact, feasible improvements that will reduce the impact to an acceptable LOS are identified. Improvements can be in many forms, including the addition of lanes, traffic control modification, or demand management measures.

## FORECASTING METHODOLOGY

Ambient Growth Rate

To account for area-wide ambient growth, the Opening Year Conditions and Cumulative Conditions will include a 2% annual growth for 2 years (total growth factor = 1.0404) over the 2023 base volumes. City staff shall confirm that this growth rate is applicable and refine as necessary.

Other Cumulative Projects

A list of pending and approved cumulative development projects will be obtained from City of Banning staff. This list will be narrowed down to include projects within a 1.5-mile radius of the project site.

Trip forecasts for other development projects within the project study area will be determined based on the Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021 and will be added to existing roadway volumes for the Cumulative Conditions scenarios.

## GENERAL PLAN AMENDMENT ANALYSIS

The project is composed of the following three parcels:

- 540-190-020: 2.45 acres: Industrial (I) zoned; no change proposed
- 540-180-026: 8.17 acres; Industrial (I) zoned; no change proposed
- 540-180-022: 4.30 acres; General Commercial (GC) zoned; proposed rezone to Industrial (I)

Table 5 shows a project trip generation comparison for maximum buildout potential between the existing zoning of General Commercial (GC) and the proposed zoning of Industrial (I).

Table 5 shows the General Plan land use trip generation based upon trip generation rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021). Based on review of the ITE land use description, trip generation rates for shopping plaza (40k-159k) (Land Use Code 821) and general light industrial (Land Use Code 110) were determined to adequately represent the existing and proposed land uses and were selected for use in this analysis. The project trip generation forecast is determined by multiplying the trip generation rates by the land use quantities.

As shown in Table 5, maximum buildout under the existing General Commercial (GC) land use is proposed to generate approximately 6,195 daily vehicle trips, including 231 vehicle trips during the AM peak hour and 592 vehicle trips during the PM peak hour. Maximum buildout under the proposed Industrial (I) land use is proposed to generate approximately 547 daily vehicle trips, including 83 vehicle trips during the AM peak hour and 73 vehicle trips during the PM peak hour. The existing General Plan land use compared to the proposed land use is proposed to generate approximately 5,648 less daily vehicle trips, including 148 less vehicle trips during the AM peak hour and 519 less vehicle trips during the PM peak hour.

Thus, the proposed rezoning of 540-180-022 from General Commercial (GC) to Industrial (I) is anticipated to have a reduction in trip generation for the AM peak hour, PM peak hour, and Daily, and Horizon Year impacts would not be increased beyond what is anticipated in the approved City of Banning General Plan.

## VEHICLES MILES TRAVELED (VMT) ANALYSIS

A separate VMT screening assessment will be performed for the project.

## TRUCK TURNING TEMPLATES

Truck turning templates will be provided overlayed on the project site plan to confirm ingress and egress at the project driveways.

## ON-SITE CIRCULATION ANALYSIS

All project driveways will be evaluated based on lane configurations, traffic control, and potential turn restrictions.

The analysis will include a left turn storage analysis, access control analysis, and an analysis of spacing between driveways to determine whether the number of driveways needs to be consolidated. In addition, a queuing analysis at the gates will be performed to confirm whether sufficient storage is provided on-site to prevent spillback onto adjacent roadways. This will be performed at each gated ingress point based on the Crommelin methodology.

## CONCLUSION

We appreciate the opportunity to provide this scoping document for your review. Should you have any questions or comments regarding the proposed scope, please contact Bryan Crawford at (714) 795-3100 x 104 or bryan@ganddini.com.

## Table 1 (1 of 3)
## Survey Site Inbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 12:00 AM - 12:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:15 AM - 12:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:30 AM - 12:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:45 AM - 1:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 AM - 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 AM - 1:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 AM - 1:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 AM - 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 AM - 2:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 AM - 2:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 AM - 2:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 AM - 3:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 AM - 3:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 AM - 3:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 AM - 3:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 AM - 4:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 AM - 4:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 AM - 4:30 AM | 3 | 0 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 5 | 3 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 4 |
| 4:30 AM - 4:45 AM | 11 | 0 | 0 | 0 | 11 | 10 | 0 | 0 | 0 | 10 | 8 | 0 | 0 | 1 | 9 | 10 | 0 | 0 | 1 | 11 |
| 4:45 AM - 5:00 AM | 6 | 0 | 0 | 2 | 8 | 5 | 0 | 0 | 2 | 7 | 6 | 0 | 0 | 1 | 7 | 6 | 0 | 0 | 2 | 8 |
| 5:00 AM - 5:15 AM | 1 | 0 | 0 | 4 | 5 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 3 | 4 |
| 5:15 AM - 5:30 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 5:30 AM - 5:45 AM | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| 5:45 AM - 6:00 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| 6:00 AM - 6:15 AM | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 2 | 3 |
| 6:15 AM - 6:30 AM | 1 | 1 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 6:30 AM - 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:45 AM - 7:00 AM | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 3 | 0 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 4 |
| 7:00 AM - 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:15 AM - 7:30 AM | 0 | 0 | 0 | 2 | 2 | 0 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 |
| 7:30 AM - 7:45 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 7:45 AM - 8:00 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 8:00 AM - 8:15 AM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 1 | 1 | 0 | 1 | 3 |
| 8:15 AM - 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 8:30 AM - 8:45 AM | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 6 | 2 | 0 | 1 | 1 | 4 |

## Table 1 (2 of 3)
## Survey Site Inbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 8:45 AM - 9:00 AM | 0 | 1 | 0 | 3 | 4 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 4 |
| 9:00 AM - 9:15 AM | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 9:15 AM - 9:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 9:30 AM - 9:45 AM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 3 |
| 9:45 AM - 10:00 AM | 2 | 1 | 0 | 0 | 3 | 2 | 0 | 0 | 2 | 4 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 4 |
| 10:00 AM - 10:15 AM | 2 | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 3 |
| 10:15 AM - 10:30 AM | 1 | 1 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 3 |
| 10:30 AM - 10:45 AM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 10:45 AM - 11:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 11:00 AM - 11:15 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 11:15 AM - 11:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 AM - 11:45 AM | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 4 | 1 | 0 | 0 | 1 | 2 | 2 | 0 | 0 | 2 | 4 |
| 11:45 AM - 12:00 PM | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 5 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 12:00 PM - 12:15 PM | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 12:15 PM - 12:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 1 | 2 |
| 12:30 PM - 12:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 12:45 PM - 1:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 |
| 1:00 PM - 1:15 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 1:15 PM - 1:30 PM | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 1:30 PM - 1:45 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 2 |
| 1:45 PM - 2:00 PM | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 1 | 4 |
| 2:00 PM - 2:15 PM | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 2:15 PM - 2:30 PM | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 3 |
| 2:30 PM - 2:45 PM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 0 | 3 |
| 2:45 PM - 3:00 PM | 1 | 1 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 3 |
| 3:00 PM - 3:15 PM | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 3:15 PM - 3:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 PM - 3:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 3:45 PM - 4:00 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 4:00 PM - 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM - 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM - 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 4:45 PM - 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 5:00 PM - 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM - 5:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 5:30 PM - 5:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |

## Table 1 (3 of 3)
## Survey Site Inbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 5:45 PM - 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:00 PM - 6:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:15 PM - 6:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:30 PM - 6:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:45 PM - 7:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 PM - 7:15 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 7:15 PM - 7:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 PM - 7:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 PM - 8:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 PM - 8:15 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 8:15 PM - 8:30 PM | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 8:30 PM - 8:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 PM - 9:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 PM - 9:15 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 9:15 PM - 9:30 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 9:30 PM - 9:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 PM - 10:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 PM - 10:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 PM - 10:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 PM - 10:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 PM - 11:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 PM - 11:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 PM - 11:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 PM - 11:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 PM - 12:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Daily | 55 | 7 | 1 | 32 | 95 | 45 | 10 | 2 | 41 | 98 | 43 | 7 | 3 | 28 | 81 | 48 | 8 | 2 | 34 | 92 |
| AM Peak Hour* | 8:00 AM - 9:00 AM | | | | | | | | | | | | | | | 3 | 2 | 2 | 5 | 12 |
| PM Peak Hour* | 4:30 PM - 5:30 PM | | | | | | | | | | | | | | | 0 | 2 | 0 | 2 | 4 |

Notes:

* Peak hours shown for peak of adjacent street traffic (one hour between 7-9 AM and one hour between 4-6 PM) based on sum of inbound plus outbound trips.

## Table 2 (1 of 3)
## Survey Site Outbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 12:00 AM - 12:15 AM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 12:15 AM - 12:30 AM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 |
| 12:30 AM - 12:45 AM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 12:45 AM - 1:00 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1:00 AM - 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 AM - 1:30 AM | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 1:30 AM - 1:45 AM | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1:45 AM - 2:00 AM | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 2:00 AM - 2:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 AM - 2:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 AM - 2:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 AM - 3:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 AM - 3:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 AM - 3:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 AM - 3:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 AM - 4:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 AM - 4:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 AM - 4:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 AM - 4:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 4:45 AM - 5:00 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 5:00 AM - 5:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 5:15 AM - 5:30 AM | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| 5:30 AM - 5:45 AM | 0 | 0 | 1 | 4 | 5 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 1 | 3 | 4 |
| 5:45 AM - 6:00 AM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 6:00 AM - 6:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:15 AM - 6:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 6:30 AM - 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:45 AM - 7:00 AM | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 0 | 0 | 1 | 2 | 3 |
| 7:00 AM - 7:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 7:15 AM - 7:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 4 | 4 | 1 | 1 | 0 | 2 | 4 |
| 7:30 AM - 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 7:45 AM - 8:00 AM | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 8:00 AM - 8:15 AM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 |
| 8:15 AM - 8:30 AM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 3 |
| 8:30 AM - 8:45 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |

## Table 2 (2 of 3)
## Survey Site Outbound Trips Generated Summary

| | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| 8:45 AM - 9:00 AM | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 3 |
| 9:00 AM - 9:15 AM | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 0 | 1 | 0 | 2 | 3 | 1 | 1 | 1 | 1 | 4 |
| 9:15 AM - 9:30 AM | 1 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 1 | 3 |
| 9:30 AM - 9:45 AM | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 3 |
| 9:45 AM - 10:00 AM | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 3 |
| 10:00 AM - 10:15 AM | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 2 | 5 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 4 |
| 10:15 AM - 10:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 10:30 AM - 10:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 2 |
| 10:45 AM - 11:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 AM - 11:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 11:15 AM - 11:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 11:30 AM - 11:45 AM | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 3 |
| 11:45 AM - 12:00 PM | 1 | 0 | 0 | 1 | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 12:00 PM - 12:15 PM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 12:15 PM - 12:30 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 4 | 2 | 0 | 1 | 0 | 3 | 1 | 1 | 1 | 2 | 5 |
| 12:30 PM - 12:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 2 |
| 12:45 PM - 1:00 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 1:00 PM - 1:15 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 2 |
| 1:15 PM - 1:30 PM | 0 | 0 | 0 | 2 | 2 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 3 |
| 1:30 PM - 1:45 PM | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 10 | 11 | 0 | 0 | 0 | 11 | 7 | 0 | 0 | 0 | 7 |
| 1:45 PM - 2:00 PM | 0 | 0 | 0 | 1 | 1 | 6 | 0 | 0 | 1 | 7 | 2 | 1 | 0 | 1 | 4 | 3 | 1 | 0 | 1 | 5 |
| 2:00 PM - 2:15 PM | 15 | 0 | 0 | 1 | 16 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 6 | 0 | 1 | 1 | 8 |
| 2:15 PM - 2:30 PM | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 2:30 PM - 2:45 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:45 PM - 3:00 PM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 3:00 PM - 3:15 PM | 2 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 3:15 PM - 3:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 3:30 PM - 3:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 PM - 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 4:00 PM - 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM - 4:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 4:30 PM - 4:45 PM | 2 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 |
| 4:45 PM - 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 2 |
| 5:00 PM - 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM - 5:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 5:30 PM - 5:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |

## Table 2 (3 of 3)
## Survey Site Outbound Trips Generated Summary

| | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| 5:45 PM - 6:00 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 6:00 PM - 6:15 PM | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 |
| 6:15 PM - 6:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:30 PM - 6:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:45 PM - 7:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:00 PM - 7:15 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 7:15 PM - 7:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 7:30 PM - 7:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 7:45 PM - 8:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 8:00 PM - 8:15 PM | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 8:15 PM - 8:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 PM - 8:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 PM - 9:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 9:00 PM - 9:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 PM - 9:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 9:30 PM - 9:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 PM - 10:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 PM - 10:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 PM - 10:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 PM - 10:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 PM - 11:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 PM - 11:15 PM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 |
| 11:15 PM - 11:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 PM - 11:45 PM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 5 | 0 | 0 | 0 | 5 | 3 | 0 | 0 | 0 | 3 |
| 11:45 PM - 12:00 AM | 3 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 3 |
| Daily | 56 | 9 | 1 | 33 | 99 | 44 | 14 | 1 | 41 | 100 | 51 | 9 | 3 | 29 | 92 | 51 | 11 | 2 | 35 | 99 |
| AM Peak Hour* | 8:00 AM - 9:00 AM | | | | | | | | | | | | | | | 4 | 3 | 0 | 3 | 10 |
| PM Peak Hour* | 4:30 PM - 5:30 PM | | | | | | | | | | | | | | | 4 | 2 | 0 | 0 | 6 |

Notes:

* Peak hours shown for peak of adjacent street traffic (one hour between 7-9 AM and one hour between 4-6PM) based on sum of inbound plus outbound trips.

## Table 3
## Project Trips Generated

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 2 | 3 | 5 | 2 | 2 | 4 | 19 |
| Trucks (3-Axle) | | | 2 | 0 | 2 | 0 | 0 | 0 | 4 |
| Trucks (4+-Axle) | | | 5 | 3 | 8 | 2 | 0 | 2 | 69 |
| Subtotal | | | 12 | 10 | 22 | 4 | 6 | 10 | 191 |
| Trips Generated in Passenger Car Equivalents[3] | | | | | | | | | |
| Existing Brown Strauss Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 3 | 5 | 8 | 3 | 3 | 6 | 29 |
| Trucks (3-Axle) | | | 4 | 0 | 4 | 0 | 0 | 0 | 8 |
| Trucks (4+-Axle) | | | 15 | 9 | 24 | 6 | 0 | 6 | 207 |
| Subtotal | | | 25 | 18 | 43 | 9 | 7 | 16 | 343 |

| Trips Generation Rates Per Acre | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 1.0 AC | | | | | | | |
| Passenger Cars | | | 0.13 | 0.17 | 0.30 | 0.00 | 0.17 | 0.17 | 4.30 |
| Trucks (2-Axle) | | | 0.09 | 0.13 | 0.22 | 0.09 | 0.09 | 0.18 | 0.83 |
| Trucks (3-Axle) | | | 0.09 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.17 |
| Trucks (4+-Axle) | | | 0.22 | 0.13 | 0.35 | 0.09 | 0.00 | 0.09 | 3.00 |
| Subtotal | | | 0.52 | 0.43 | 0.95 | 0.17 | 0.26 | 0.43 | 8.30 |

Notes:
1. Traffic counts at project driveway (see Tables 1 and 2).
2. AC = Acres
3. Source: City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021).
   2-Axle = 1.5; 3-Axle = 2.0; 4+-Axle = 3.0

## Table 4
## Project Trips Generated (By Acreage)

| Trips Generation Rates Per Acre | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 1.0 AC | | | | | | | |
| Passenger Cars | | | 0.13 | 0.17 | 0.30 | 0.00 | 0.17 | 0.17 | 4.30 |
| Trucks (2-Axle) | | | 0.09 | 0.13 | 0.22 | 0.09 | 0.09 | 0.18 | 0.83 |
| Trucks (3-Axle) | | | 0.09 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.17 |
| Trucks (4+-Axle) | | | 0.22 | 0.13 | 0.35 | 0.09 | 0.00 | 0.09 | 3.00 |
| Subtotal | | | 0.52 | 0.43 | 0.95 | 0.17 | 0.26 | 0.43 | 8.30 |

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 14.92 AC | | | | | | | |
| Passenger Cars | | | 2 | 3 | 5 | 0 | 3 | 3 | 64 |
| Trucks (2-Axle) | | | 1 | 2 | 3 | 1 | 1 | 2 | 12 |
| Trucks (3-Axle) | | | 1 | 0 | 1 | 0 | 0 | 0 | 3 |
| Trucks (4+-Axle) | | | 3 | 2 | 5 | 1 | 0 | 1 | 45 |
| Subtotal | | | 7 | 7 | 14 | 2 | 4 | 6 | 124 |
| Trips Generated in Passenger Car Equivalents[3] | | | | | | | | | |
| Existing Brown Strauss Facility | Counts | 14.92 AC | | | | | | | |
| Passenger Cars | | | 2 | 3 | 5 | 0 | 3 | 3 | 64 |
| Trucks (2-Axle) | | | 2 | 3 | 5 | 2 | 2 | 4 | 18 |
| Trucks (3-Axle) | | | 2 | 0 | 2 | 0 | 0 | 0 | 6 |
| Trucks (4+-Axle) | | | 9 | 6 | 15 | 3 | 0 | 3 | 135 |
| Subtotal | | | 15 | 12 | 27 | 5 | 5 | 10 | 223 |

Notes:

1. Traffic counts at project driveway (see Tables 1, 2 and 3).
2. AC = Acres
3. Source: City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021).
   2-Axle = 1.5; 3-Axle = 2.0; 4+-Axle = 3.0

## Table 5
## General Plan Amendment Trip Generation Comparison

| Trip Generation Rates | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Unit[2] | % In | % Out | Rate | % In | % Out | Rate | Daily |
| Shopping Plaza (40-150k) | ITE 821 | TSF | 62% | 38% | 3.53 | 48% | 52% | 9.03 | 94.49 |
| General Light Industrial | ITE 110 | TSF | 88% | 12% | 0.74 | 14% | 86% | 0.65 | 4.87 |

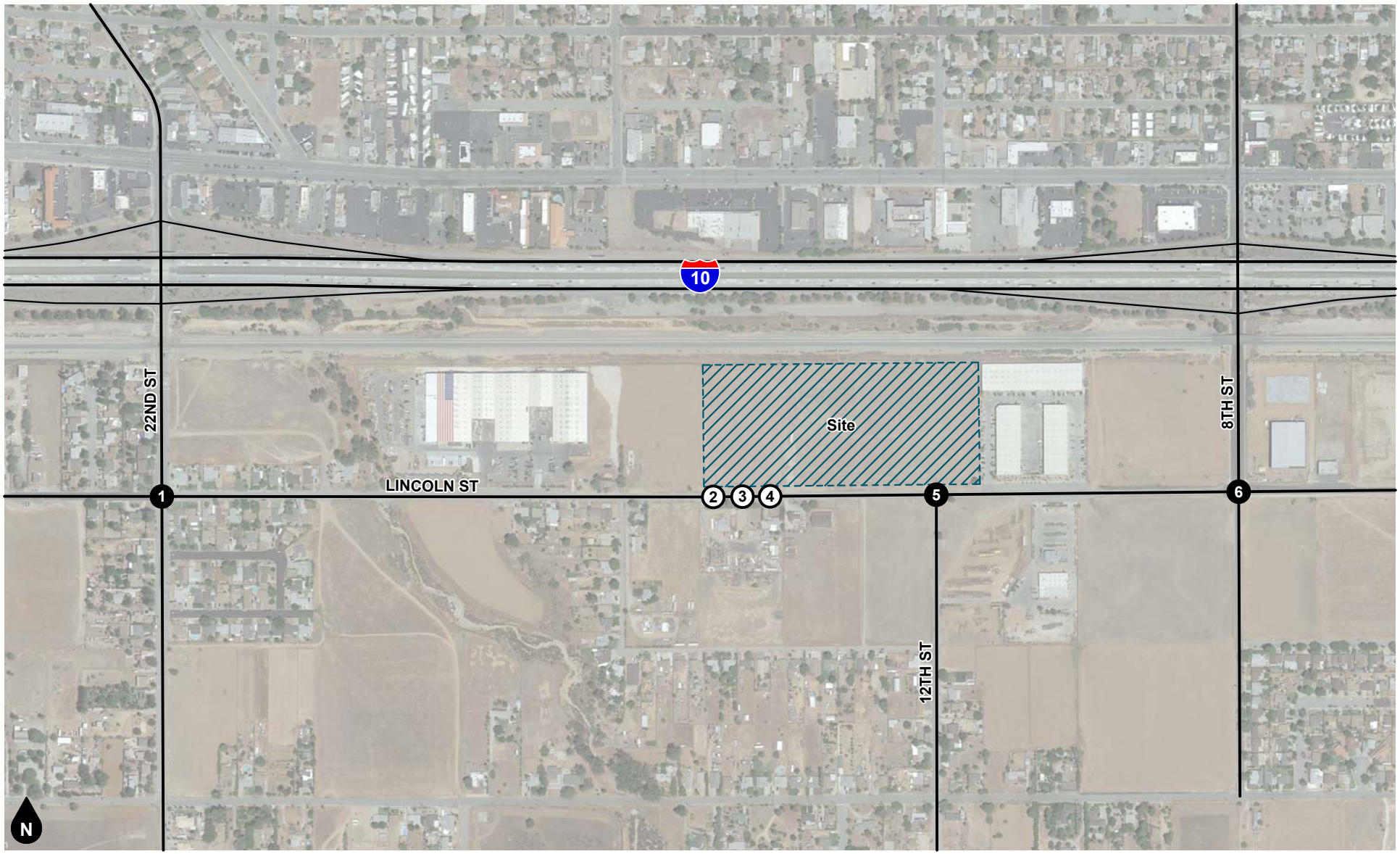
| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Quantity[3] | Unit[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Land Use | | | | | | | | | |
| Shopping Plaza (40-150k) | 65.558 | TSF | 143 | 88 | 231 | 284 | 308 | 592 | 6,195 |
| Proposed Land Use | | | | | | | | | |
| General Light Industrial | 112.385 | TSF | 73 | 10 | 83 | 10 | 63 | 73 | 547 |
| **NET PROJECT TRIPS GENERATED** | | | **-70** | **-78** | **-148** | **-274** | **-245** | **-519** | **-5,648** |

Notes:

(1) ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code

(2) TSF = Thousand Square Feet (Gross Floor Area)

(3) The City of Banning Municipal Code Table 17.12.030 states that General Commercial (GC) has a maximum building coverage of 35% and Industrial (I) has a maximum building coverage of 60%. Parcel 540-180-022 is zoned as General Commercial (GC) and is 4.3 acres (187,308 square feet). This zone at a maximum of 35% General Commercial (GC) = 65.558 square feet and at a maximum of 60% Industrial (I) is 112, 385 square feet.




Legend

(#) Study Intersection

(#) Project Driveway

**Figure 1**
**Project Location Map**

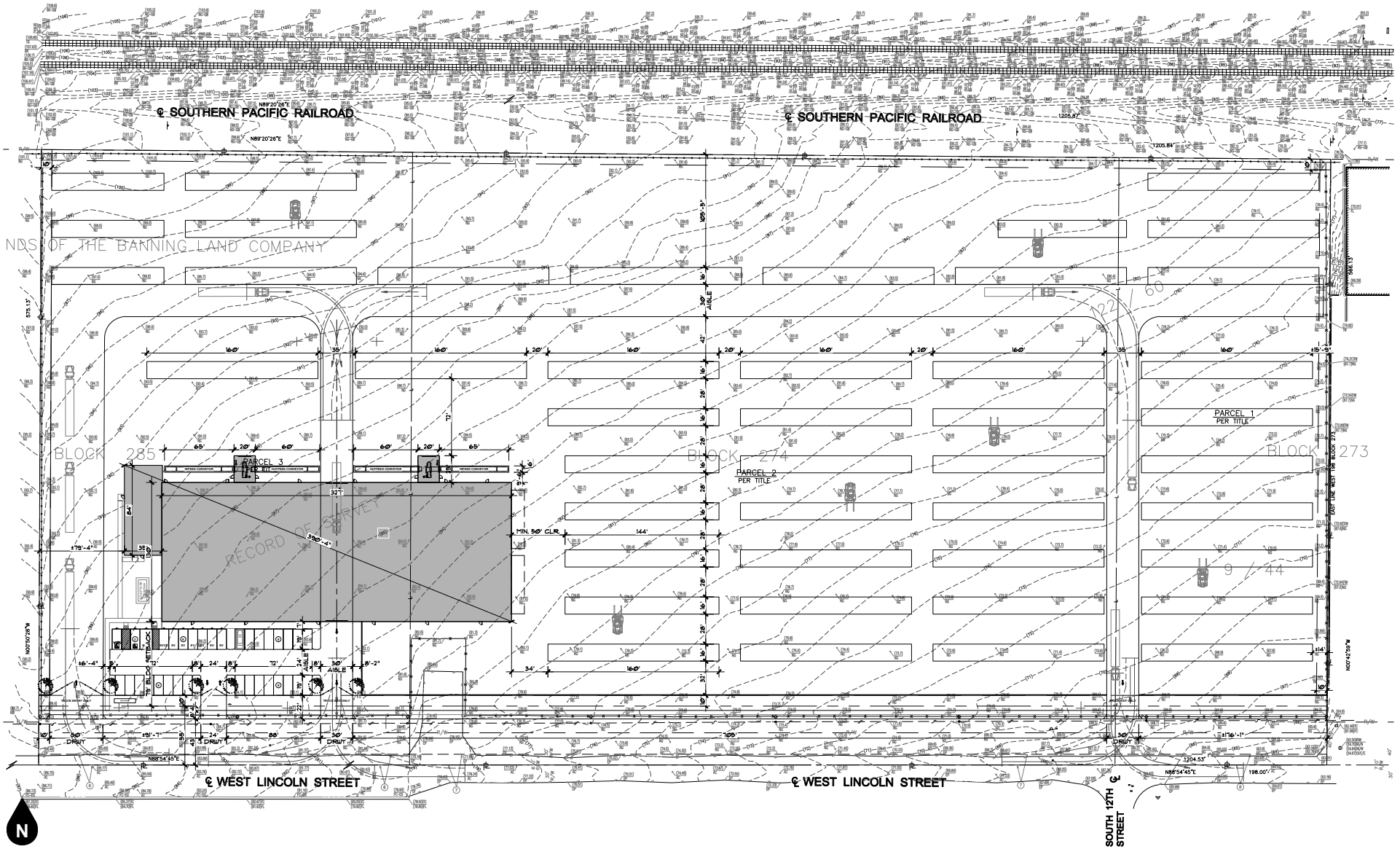



**Figure 2**
**Site Plan**

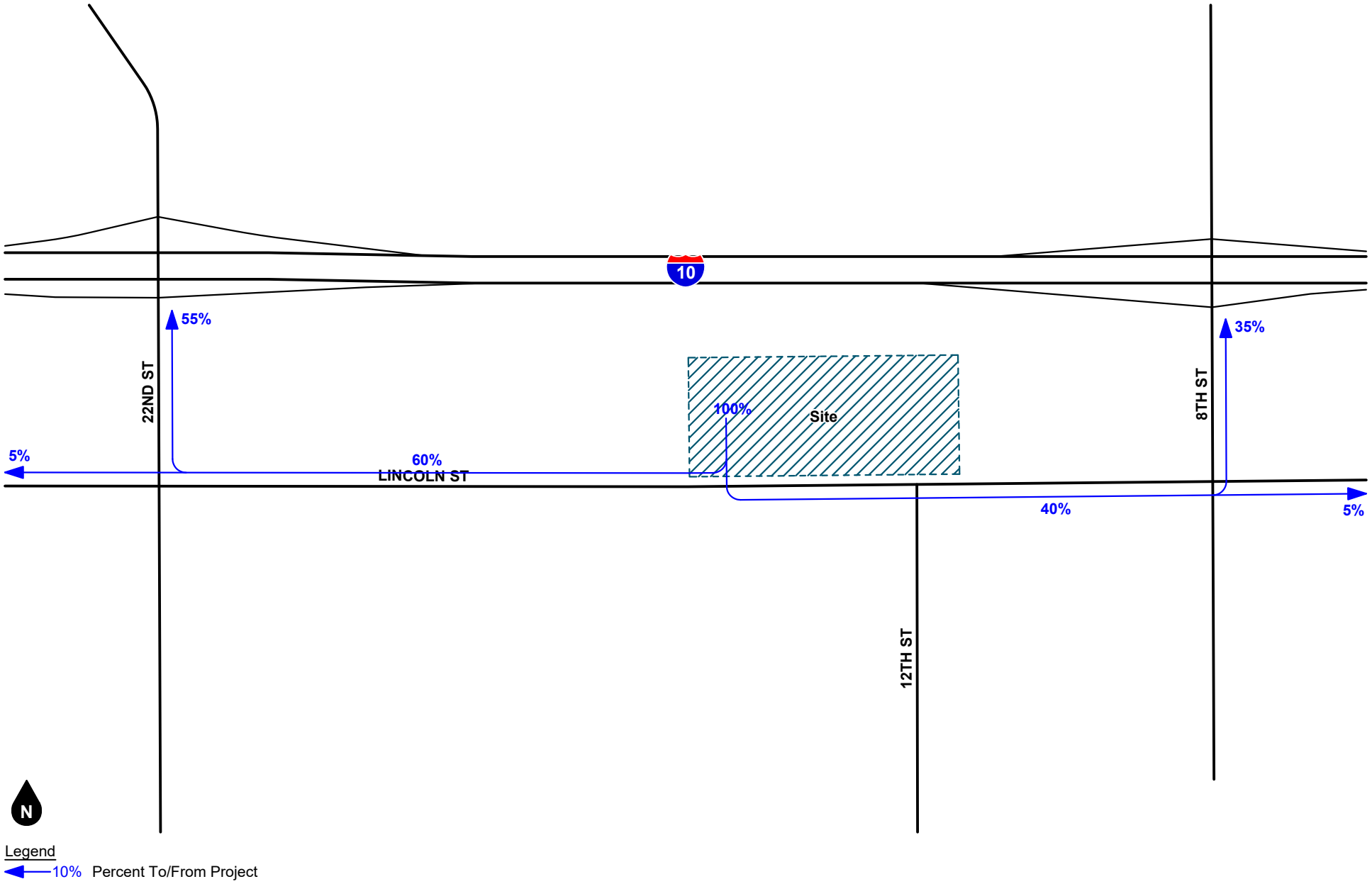



**Figure 3**
**Project Trip Distribution - Passenger Cars**

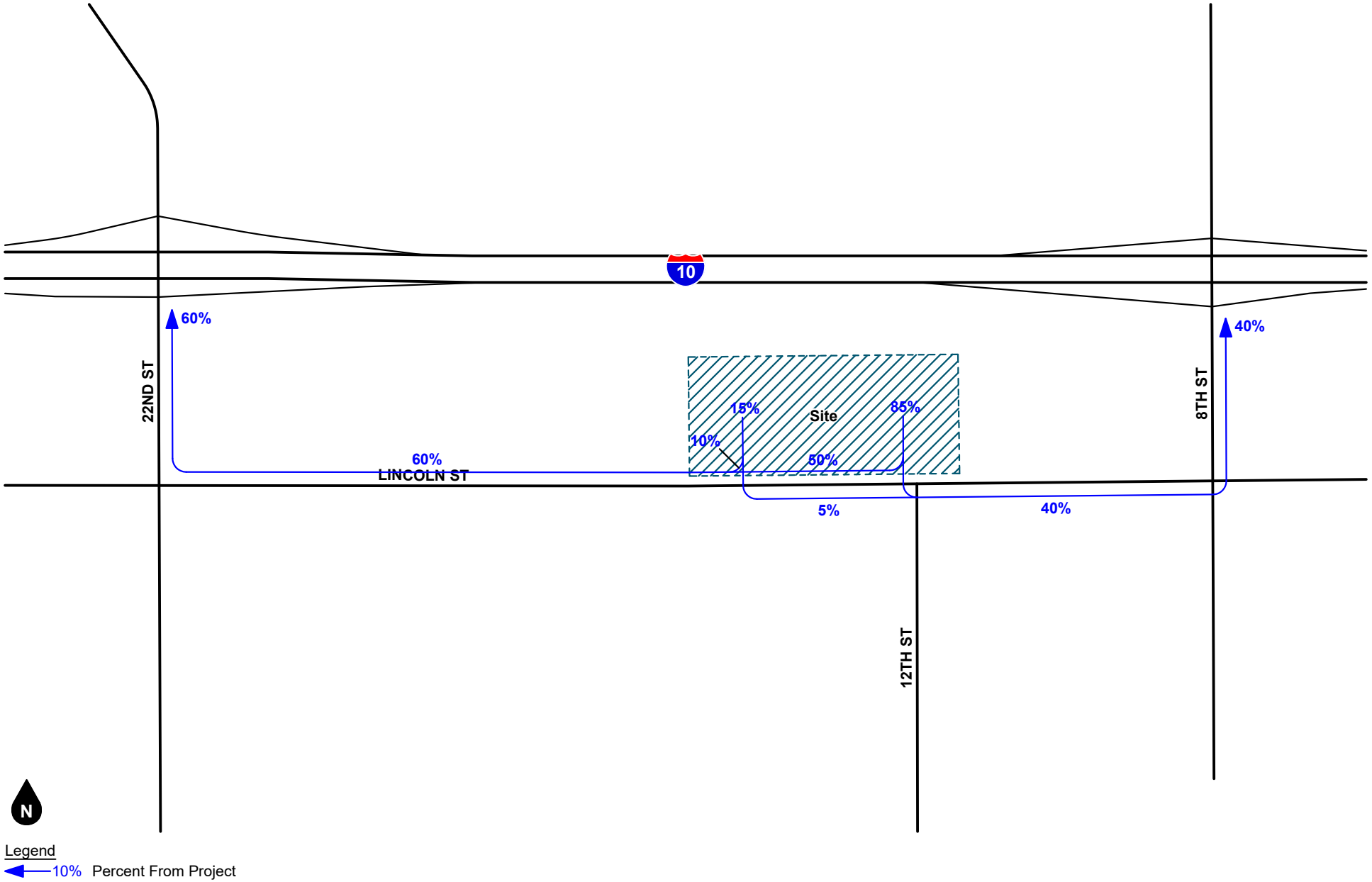



**Figure 4**
**Project Outbound Trip Distribution - Trucks**

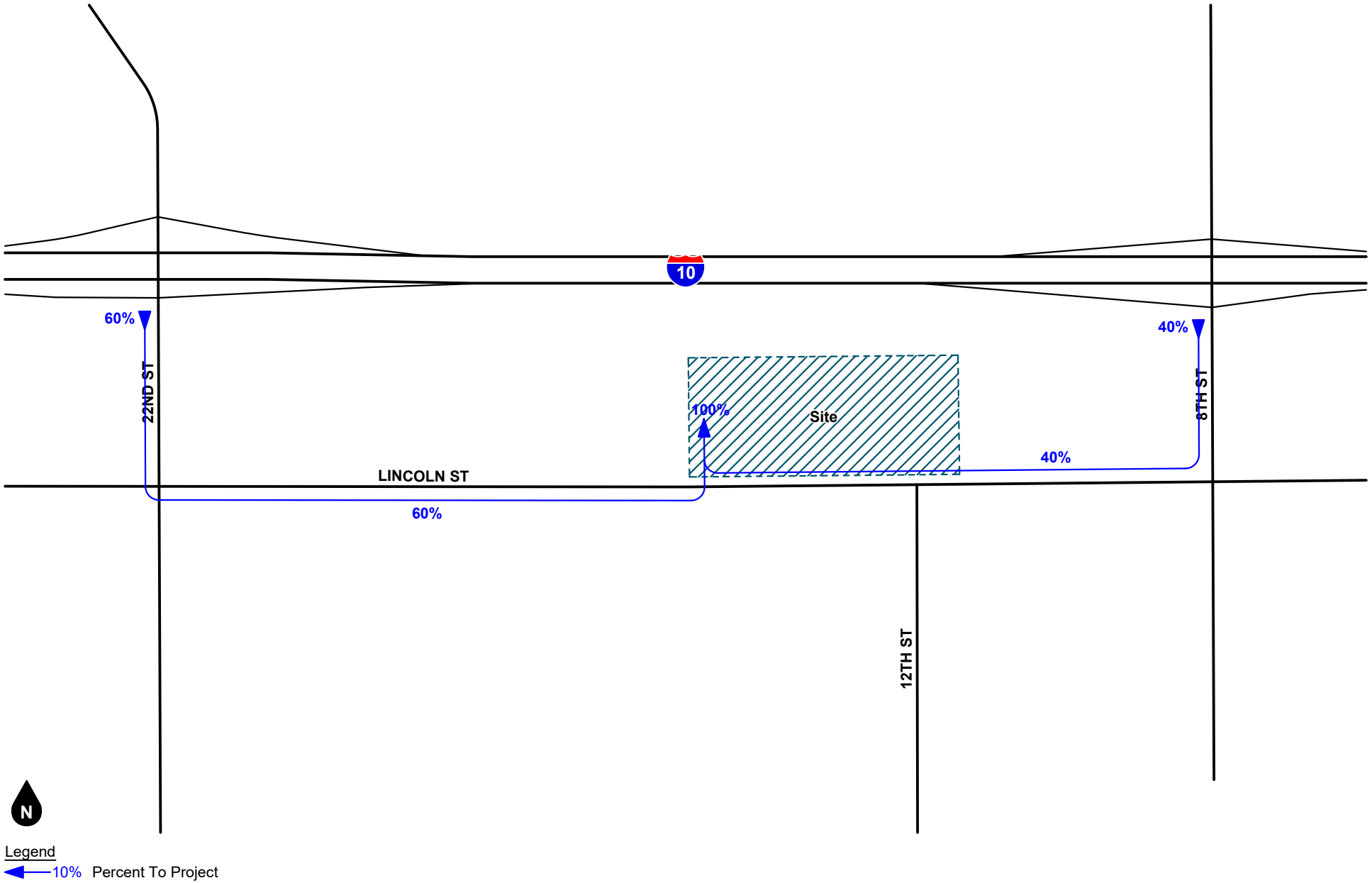
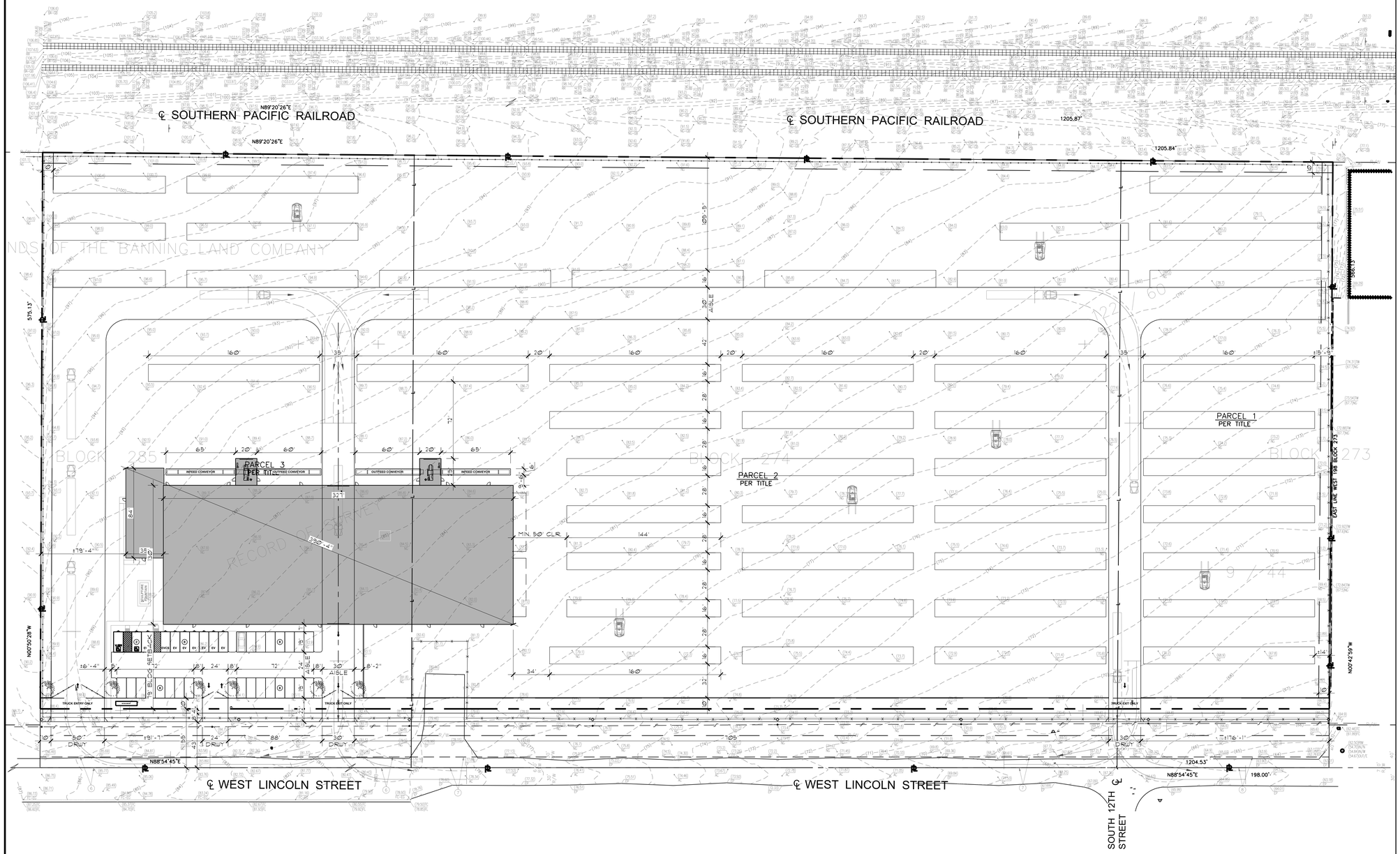



**Figure 5**
**Project Inbound Trip Distribution - Trucks**

# Appendix A

## Site Plan




N

## KEYNOTES

## NOTES

A. CONSTRUCTION IN THE PUBLIC RIGHT OF WAY AND PROJECTION BEYOND THE PROPERTY LINES OR INTO THE ALLEYS SHALL COMPLY WITH COUNTY OF LOS ANGELES BUILDING CODE CHAPTER 32.

B. PEDESTRIANS SHALL BE PROTECTED DURING CONSTRUCTION, REMODELING AND DEMOLITION ACTIVITIES.

**SITE PLAN** SCALE: 1" = 40'-0" (1)


VERTREES A&E
Architectural & Engineering Services
532 East Lambert Road
Brea, CA 92821
tel. 714.255.9645
www.vertreesae.com


△ DATE XXXX

Contractor:

Proposed:
**PROJECT NAME**

For:
**CLIENT/OWNER NAME**

CLIENT ADDRESS

Project Address:
**PROJECT ADDRESS**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# SITE PLAN

Plot Date
01/18/2023

VAE Project No.
000

# A1.1

# Appendix B

## Traffic Counts

A13123

## 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 7:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | 37 | 6 | 1 | 21 | 0 | 0 | 65 | **TOTAL** | 18 | 1 | 0 | 11 | 0 | 0 | 30 |
| | | | | **AM PEAK HOUR** | | | 4:15 AM | | | | | | | **AM PEAK HOUR** | 1:30 PM |
| | | | | **AM PEAK VOLUME** | | | 27 | | | | | | | **AM PEAK VOLUME** | 8 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **CLASS 1** | PASSENGER VEHICLES | **TOTAL: AM+PM** | 55 | 7 | 1 | 32 | 0 | 0 | 95 |
| **CLASS 2** | 2-AXLE TRUCKS | **% OF TOTAL** | 57.9% | 7.4% | 1.1% | 33.7% | 0.0% | 0.0% | 100.0% |
| **CLASS 3** | 3-AXLE TRUCKS | | | | | | | | |
| **CLASS 4** | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| **CLASS 5** | RV | **TOTAL: ALL** | 111 | 16 | 2 | 65 | 0 | 0 | 194 |
| **CLASS 6** | Buses | **% OF TOTAL** | 57.2% | 8.2% | 1.0% | 33.5% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:15 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 13:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 15 | 0 | 0 | 1 | 0 | 0 | 16 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 1 | 4 | 0 | 0 | 5 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 20:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 21:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 25 | 5 | 1 | 21 | 0 | 0 | 52 | TOTAL | 31 | 4 | 0 | 12 | 0 | 0 | 47 |
| | | | | AM PEAK HOUR | | | 1:15 AM | | | | | AM PEAK HOUR | | | 2:00 PM |
| | | | | AM PEAK VOLUME | | | 10 | | | | | AM PEAK VOLUME | | | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 56 | 9 | 1 | 33 | 0 | 0 | 99 |
| % OF TOTAL | 56.6% | 9.1% | 1.0% | 33.3% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | BUS |

A13123

## 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | | PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 2 | 0 | 0 | 4 |
| 1:15 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:15 | 1 | 0 | 0 | 4 | 0 | 0 | 5 |
| 1:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 13:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:45 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:45 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 17 | 0 | 0 | 1 | 0 | 0 | 18 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 4 | 0 | 0 | 1 | 0 | 0 | 5 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 4 | 1 | 0 | 0 | 0 | 0 | 5 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 | 7 | 0 | 0 | 2 | 0 | 0 | 9 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 1 | 0 | 0 | 5 | 0 | 0 | 6 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 1 | 6 | 0 | 0 | 7 | 17:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 5:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 17:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 1 | 0 | 0 | 3 | 0 | 0 | 4 | 18:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 6:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 7:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 20:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 2 | 0 | 3 | 0 | 0 | 6 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:15 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 21:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 9:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 2 | 0 | 1 | 0 | 0 | 5 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 62 | 11 | 2 | 42 | 0 | 0 | 117 | TOTAL | 49 | 5 | 0 | 23 | 0 | 0 | 77 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 29 |

| | |
|---|---|
| AM PEAK HOUR | 2:00 PM |
| AM PEAK VOLUME | 27 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 111 | 16 | 2 | 65 | 0 | 0 | 194 |
| % OF TOTAL | 57.2% | 8.2% | 1.0% | 33.5% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

A13123

## 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 16:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:45 | 5 | 0 | 0 | 2 | 0 | 0 | 7 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:45 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 0 | 0 | 2 | 0 | 0 | 4 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 3 | 0 | 1 | 0 | 0 | 5 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 31 | 8 | 2 | 29 | 0 | 0 | 70 | TOTAL | 14 | 2 | 0 | 12 | 0 | 0 | 28 |
| | | | | AM PEAK HOUR | | | 4:15 AM | | | | | AM PEAK HOUR | | | 2:00 PM |
| | | | | AM PEAK VOLUME | | | 25 | | | | | AM PEAK VOLUME | | | 11 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 45 | 10 | 2 | 41 | 0 | 0 | 98 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 45.9% | 10.2% | 2.0% | 41.8% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 89 | 24 | 3 | 82 | 0 | 0 | 198 |
| CLASS 6 | Buses | % OF TOTAL | 44.9% | 12.1% | 1.5% | 41.4% | 0.0% | 0.0% | 100.0% |

A13123

## 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | OUT | | | | | | |
|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 5:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 5:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 7:30 | 0 | 1 | 0 | 2 | 0 | 0 | 3 |
| 7:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:00 | 1 | 1 | 1 | 0 | 0 | 0 | 3 |
| 9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 9:45 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 10:00 | 1 | 2 | 0 | 2 | 0 | 0 | 5 |
| 10:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 11:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 11:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 11:45 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| TOTAL | 13 | 9 | 1 | 26 | 0 | 0 | 49 |

| | |
|---|---|
| AM PEAK HOUR | 9:30 AM |
| AM PEAK VOLUME | 11 |

| PM | OUT | | | | | | |
|---|---|---|---|---|---|---|---|
| Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 12:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 12:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 13:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13:15 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 13:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 |
| 13:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 |
| 14:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 14:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14:45 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 15:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 19:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 23:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 31 | 5 | 0 | 15 | 0 | 0 | 51 |

| | |
|---|---|
| AM PEAK HOUR | 1:15 PM |
| AM PEAK VOLUME | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | | 44 | 14 | 1 | 41 | 0 | 0 | 100 |
| % OF TOTAL | | 44.0% | 14.0% | 1.0% | 41.0% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | BUS |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | | PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 0:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:15 | 0 | 0 | 0 | 5 | 0 | 0 | 5 |
| 0:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 1 | 0 | 2 | 0 | 0 | 3 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 10 | 0 | 0 | 1 | 0 | 0 | 11 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 7 | 0 | 0 | 2 | 0 | 0 | 9 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 2 | 0 | 0 | 0 | 0 | 4 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 16:30 | 3 | 0 | 0 | 1 | 0 | 0 | 4 |
| 4:45 | 5 | 0 | 0 | 2 | 0 | 0 | 7 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 5 | 0 | 0 | 6 | 17:15 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 5:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 6:45 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 2 | 0 | 3 | 0 | 0 | 5 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 1 | 1 | 0 | 2 | 0 | 0 | 4 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 2 | 1 | 1 | 2 | 0 | 0 | 6 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 1 | 1 | 0 | 3 | 0 | 0 | 5 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 1 | 0 | 3 | 0 | 0 | 6 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 3 | 0 | 2 | 0 | 0 | 7 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 4 | 0 | 0 | 6 | 23:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11:45 | 1 | 5 | 0 | 1 | 0 | 0 | 7 | 23:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 44 | 17 | 3 | 55 | 0 | 0 | 119 | TOTAL | 45 | 7 | 0 | 27 | 0 | 0 | 79 |

| | |
|---|---|
| AM PEAK HOUR | 4:30 AM |
| AM PEAK VOLUME | 27 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 26 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 89 | 24 | 3 | 82 | 0 | 0 | 198 |
| % OF TOTAL | 44.9% | 12.1% | 1.5% | 41.4% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 8 | 0 | 0 | 1 | 0 | 0 | 9 | 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 | 16:45 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 3 | 0 | 0 | 3 | 0 | 0 | 6 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 27 | 4 | 1 | 22 | 0 | 0 | 54 | TOTAL | 16 | 3 | 2 | 6 | 0 | 0 | 27 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 22 |

| | |
|---|---|
| AM PEAK HOUR | 2:15 PM |
| AM PEAK VOLUME | 9 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 43 | 7 | 3 | 28 | 0 | 0 | 81 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 53.1% | 8.6% | 3.7% | 34.6% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 94 | 16 | 6 | 57 | 0 | 0 | 173 |
| CLASS 6 | Buses | % OF TOTAL | 54.3% | 9.2% | 3.5% | 32.9% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:15 | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 1 | 0 | 1 | 0 | 0 | 4 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 5:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 3 | 1 | 0 | 0 | 0 | 0 | 4 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:00 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 23:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 15 | 4 | 1 | 22 | 0 | 0 | 42 | TOTAL | 36 | 5 | 2 | 7 | 0 | 0 | 50 |
| | | | | AM PEAK HOUR | | | 9:00 AM | | | | | | | AM PEAK HOUR | 1:00 PM |
| | | | | AM PEAK VOLUME | | | 9 | | | | | | | AM PEAK VOLUME | 18 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 51 | 9 | 3 | 29 | 0 | 0 | 92 |
| % OF TOTAL | 55.4% | 9.8% | 3.3% | 31.5% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | BUS |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 4:30 | 9 | 0 | 0 | 1 | 0 | 0 | 10 |
| 4:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 |
| 5:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 5:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 5:30 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 5:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 6:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:45 | 0 | 1 | 2 | 3 | 0 | 0 | 6 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 7:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 1 | 1 | 0 | 2 | 0 | 0 | 4 |
| 8:15 | 3 | 1 | 0 | 1 | 0 | 0 | 5 |
| 8:30 | 4 | 0 | 0 | 3 | 0 | 0 | 7 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:00 | 0 | 1 | 0 | 3 | 0 | 0 | 4 |
| 9:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 9:30 | 0 | 1 | 0 | 3 | 0 | 0 | 4 |
| 9:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 10:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 10:30 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:30 | 1 | 1 | 0 | 1 | 0 | 0 | 3 |
| 11:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| TOTAL | 42 | 8 | 2 | 44 | 0 | 0 | 96 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 23 |

| PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|
| Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:15 | 2 | 0 | 2 | 1 | 0 | 0 | 5 |
| 12:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 12:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 13:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 13:30 | 13 | 0 | 0 | 0 | 0 | 0 | 13 |
| 13:45 | 2 | 2 | 1 | 1 | 0 | 0 | 6 |
| 14:00 | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| 14:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 14:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 15:00 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 15:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 15:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 15:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:45 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 19:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 19:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 52 | 8 | 4 | 13 | 0 | 0 | 77 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 23 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 94 | 16 | 6 | 57 | 0 | 0 | 173 |
| % OF TOTAL | 54.3% | 9.2% | 3.5% | 32.9% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

# MEMORANDUM

**TO:** Bryan Crawford, Senior Transportation Planner, Ganddini Group, Inc.
Kevin Sin, City of Banning

**FROM:** Joanna Rembis, ***Engineering Resources of Southern California, Inc.***
Stephen Manganiello, ***STC Traffic, Inc.***

**DATE:** 05/25/2023

**SUBJECT:** **18014001 - 213 - Banning Brown Strauss Industrial - TIA Scoping Agreement - PC1**

We have completed the review of the Traffic Impact Analysis (TIA) Scoping Agreement dated April 3, 2023, for the above-referenced project and the following comments are the result of our review.

**General Comments**

1. Please complete and attach a TIA Scoping Form per Appendix A of the City of Banning Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Travelled Analysis (October 2021).

**Site Access, Safety and Other Analyses**

2. Per Section 3.7 of the City's guidelines, please include the following for evaluation in the traffic impact analysis:
    a. Overlay project site plan with truck turning templates to confirm ingress and egress at all project driveways.
    b. Evaluate lane configurations, traffic control and potential turn restrictions at all project driveways.
    c. Analyze left turn storage, access control and spacing between driveways to determine whether number of driveways need to be consolidated.
    d. Analyze queuing at gates to confirm whether sufficient storage is provided on-site to prevent spillback onto adjacent roadways.

If you have any questions on these comments please contact Stephen Manganiello, Contract Traffic Engineer, at stephen.manganiello@stctraffic.com.

# APPENDIX C

# VOLUME COUNT WORKSHEETS

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | | | | |
|---|---|---|---|---|
| Tue, Aug 15, 23 | LOCATION: | Banning | PROJECT #: | SC4158 |
| | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

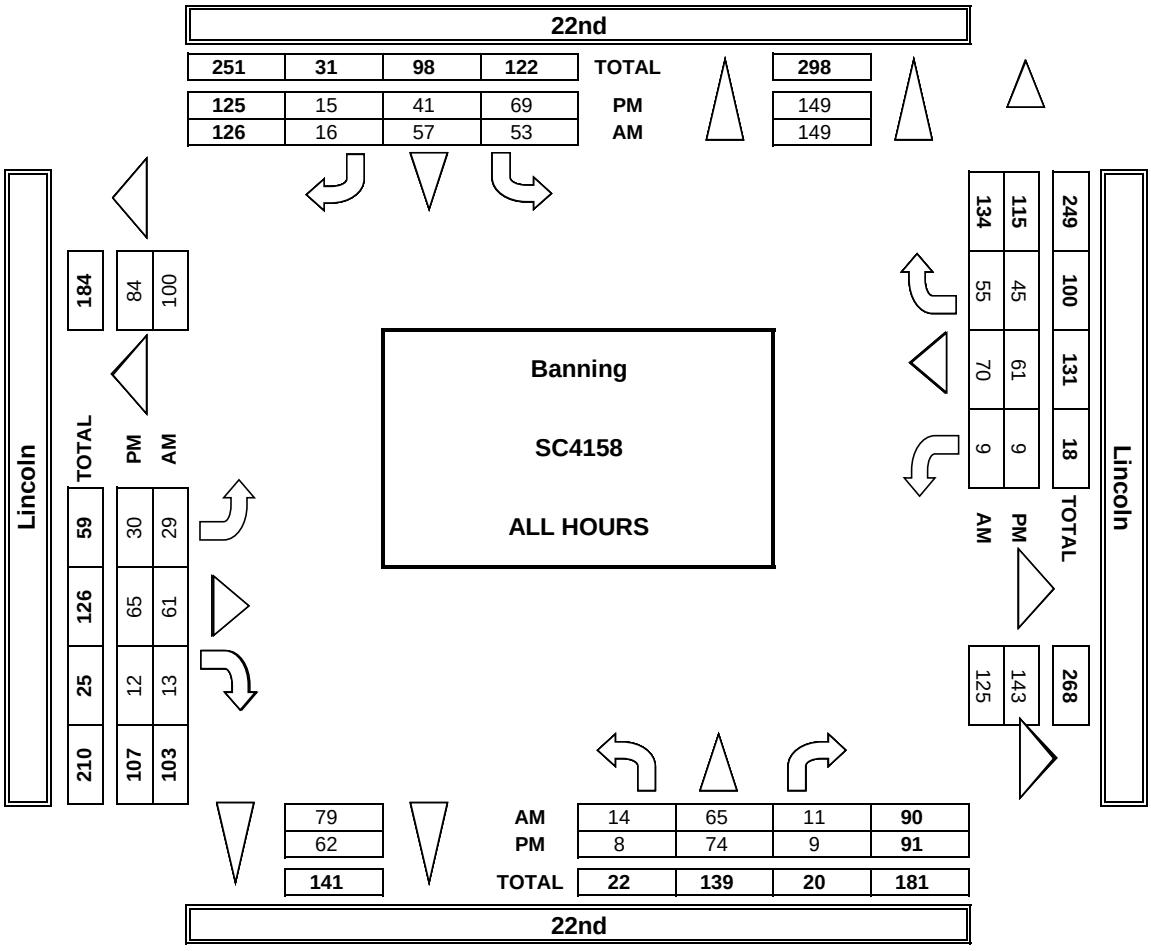
NOTES:

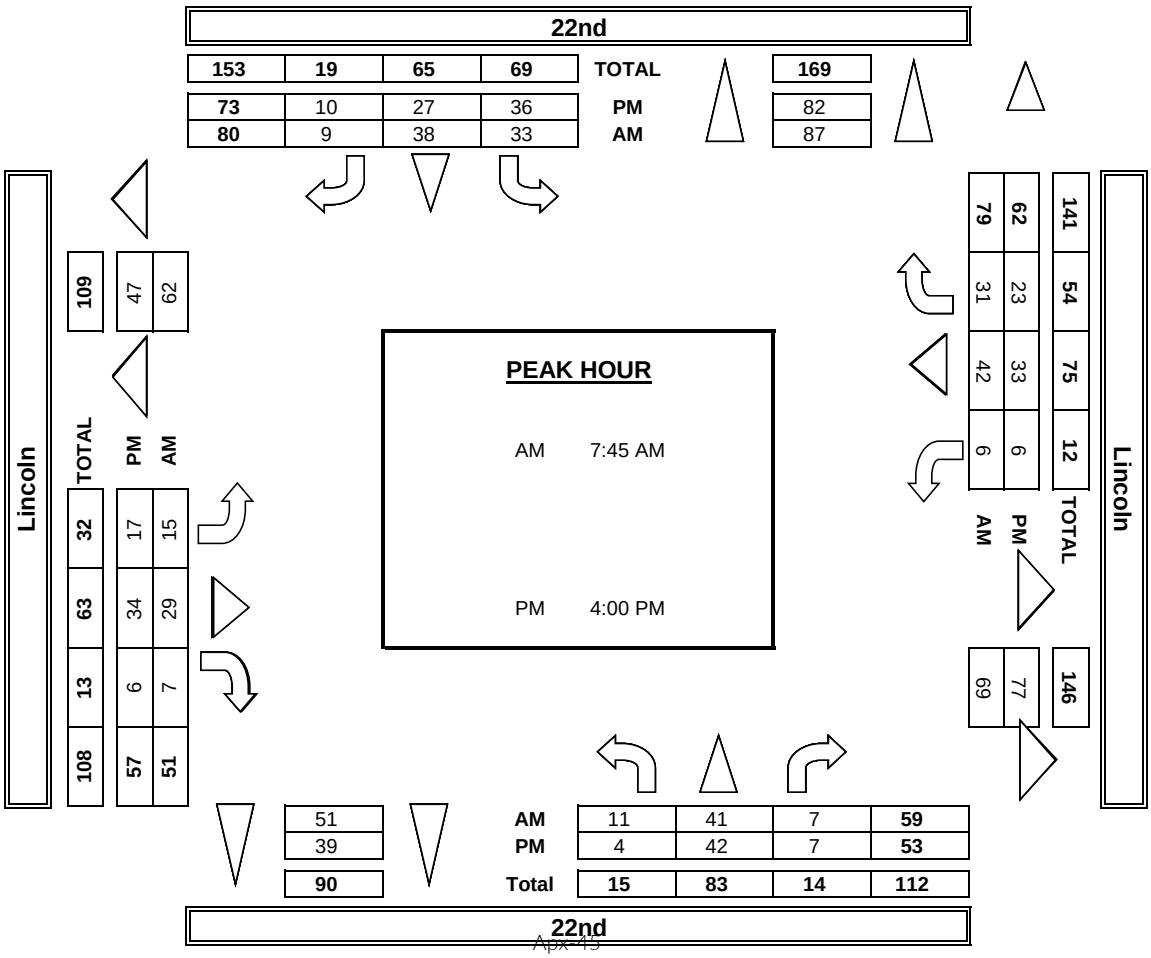
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB 0 | SB 0 | EB 0 | WB 0 | TTL |
| AM | 7:00 AM | 0 | 10 | 0 | 7 | 5 | 3 | 3 | 4 | 1 | 0 | 5 | 6 | 44 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 4 | 1 | 3 | 3 | 1 | 3 | 13 | 1 | 1 | 5 | 8 | 43 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 2 | 4 | 3 | 4 | 4 | 1 | 0 | 9 | 2 | 1 | 8 | 3 | 41 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 1 | 9 | 2 | 7 | 6 | 2 | 5 | 6 | 2 | 0 | 14 | 7 | 61 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 4 | 4 | 0 | 11 | 12 | 2 | 5 | 7 | 2 | 4 | 4 | 9 | 64 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 2 | 19 | 4 | 6 | 16 | 2 | 3 | 10 | 3 | 1 | 13 | 7 | 86 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 4 | 9 | 1 | 9 | 4 | 3 | 2 | 6 | 0 | 1 | 11 | 8 | 58 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 1 | 6 | 0 | 6 | 7 | 2 | 8 | 6 | 2 | 1 | 10 | 7 | 56 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 14 | 65 | 11 | 53 | 57 | 16 | 29 | 61 | 13 | 9 | 70 | 55 | 453 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 16% | 72% | 12% | 42% | 45% | 13% | 28% | 59% | 13% | 7% | 52% | 41% | | | | | | |
| | APP/DEPART | 90 | / | 149 | 126 | / | 79 | 103 | / | 125 | 134 | / | 100 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 11 | 41 | 7 | 33 | 38 | 9 | 15 | 29 | 7 | 6 | 42 | 31 | 269 | | | | | |
| | APPROACH % | 19% | 69% | 12% | 41% | 48% | 11% | 29% | 57% | 14% | 8% | 53% | 39% | | | | | | |
| | PEAK HR FACTOR | | 0.590 | | | 0.800 | | | 0.797 | | | 0.940 | | 0.782 | | | | | |
| | APP/DEPART | 59 | / | 87 | 80 | / | 51 | 51 | / | 69 | 79 | / | 62 | 0 | | | | | |
| PM | 4:00 PM | 1 | 17 | 2 | 10 | 9 | 3 | 5 | 7 | 3 | 2 | 7 | 6 | 72 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 2 | 12 | 3 | 9 | 6 | 4 | 2 | 6 | 1 | 1 | 11 | 8 | 65 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 1 | 8 | 1 | 11 | 8 | 2 | 7 | 13 | 2 | 2 | 8 | 5 | 68 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 5 | 1 | 6 | 4 | 1 | 3 | 8 | 0 | 1 | 7 | 4 | 40 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 2 | 11 | 0 | 8 | 8 | 2 | 4 | 10 | 2 | 0 | 6 | 6 | 59 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 1 | 5 | 1 | 5 | 2 | 0 | 2 | 5 | 1 | 1 | 9 | 4 | 36 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 9 | 1 | 12 | 3 | 2 | 6 | 11 | 2 | 1 | 8 | 7 | 62 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 1 | 7 | 0 | 8 | 1 | 1 | 1 | 5 | 1 | 1 | 5 | 5 | 36 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 8 | 74 | 9 | 69 | 41 | 15 | 30 | 65 | 12 | 9 | 61 | 45 | 438 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 9% | 81% | 10% | 55% | 33% | 12% | 28% | 61% | 11% | 8% | 53% | 39% | | | | | | |
| | APP/DEPART | 91 | / | 149 | 125 | / | 62 | 107 | / | 143 | 115 | / | 84 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 4 | 42 | 7 | 36 | 27 | 10 | 17 | 34 | 6 | 6 | 33 | 23 | 245 | | | | | |
| | APPROACH % | 8% | 79% | 13% | 49% | 37% | 14% | 30% | 60% | 11% | 10% | 53% | 37% | | | | | | |
| | PEAK HR FACTOR | | 0.663 | | | 0.830 | | | 0.648 | | | 0.775 | | 0.851 | | | | | |
| | APP/DEPART | 53 | / | 82 | 73 | / | 39 | 57 | / | 77 | 62 | / | 47 | 0 | | | | | |

**AimTD LLC**

TURNING MOVEMENT COUNTS



## INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| | NOTES: | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCE | Class | 1 | 2 | 3 | 4 | 5 | 6 | | | AM | | ▲ N | |
| Adjusted | Factor | 1 | 1.5 | 2 | 3 | 3 | 3 | | | PM MD | ◄ W | | E ► |
| | | | | | | | | | | OTHER | | S ▼ | |
| | | | | | | | | | | OTHER | | | |

| | | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | NB | SB | EB | WB | TTL |
| | LANES: | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | | | | | | |
| AM | 7:00 AM | 0 | 13 | 0 | 8 | 5 | 5 | 3 | 5 | 2 | 0 | 6 | 7 | 54 | | | | | 0 |
| | 7:15 AM | 0 | 5 | 1 | 4 | 3 | 1 | 3 | 14 | 1 | 1 | 8 | 9 | 49 | | | | | 0 |
| | 7:30 AM | 4 | 5 | 3 | 5 | 5 | 1 | 0 | 10 | 2 | 1 | 9 | 3 | 46 | | | | | 0 |
| | 7:45 AM | 1 | 10 | 2 | 8 | 6 | 2 | 5 | 6 | 2 | 0 | 15 | 7 | 64 | | | | | 0 |
| | 8:00 AM | 4 | 6 | 0 | 11 | 13 | 2 | 6 | 8 | 2 | 4 | 4 | 10 | 68 | | | | | 0 |
| | 8:15 AM | 2 | 20 | 4 | 6 | 17 | 2 | 3 | 11 | 4 | 1 | 14 | 7 | 90 | | | | | 0 |
| | 8:30 AM | 4 | 10 | 1 | 13 | 4 | 3 | 2 | 6 | 0 | 1 | 15 | 8 | 66 | | | | | 0 |
| | 8:45 AM | 2 | 6 | 0 | 6 | 7 | 2 | 9 | 6 | 2 | 1 | 12 | 11 | 64 | | | | | 0 |
| | VOLUMES | 17 | 74 | 11 | 59 | 59 | 18 | 31 | 64 | 15 | 9 | 81 | 62 | 499 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 17% | 73% | 11% | 43% | 43% | 13% | 28% | 58% | 14% | 6% | 53% | 41% | | | | | | |
| | APP/DEPART | 102 | / | 167 | 135 | / | 83 | 110 | / | 134 | 152 | / | 116 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 | 287 | | | | | |
| | APPROACH % | 17% | 72% | 11% | 44% | 46% | 11% | 29% | 56% | 15% | 7% | 55% | 38% | | | | | | |
| | PEAK HR FACTOR | | 0.611 | | | 0.833 | | | 0.764 | | | 0.904 | | 0.802 | | | | | |
| | APP/DEPART | 64 | / | 93 | 85 | / | 53 | 54 | / | 74 | 85 | / | 67 | 0 | | | | | |
| PM | 4:00 PM | 1 | 18 | 2 | 11 | 9 | 3 | 5 | 9 | 3 | 2 | 8 | 7 | 77 | | | | | 0 |
| | 4:15 PM | 2 | 12 | 3 | 9 | 7 | 4 | 2 | 7 | 1 | 1 | 13 | 8 | 68 | | | | | 0 |
| | 4:30 PM | 1 | 9 | 1 | 11 | 8 | 2 | 7 | 15 | 2 | 2 | 10 | 5 | 72 | | | | | 0 |
| | 4:45 PM | 0 | 5 | 1 | 7 | 5 | 1 | 3 | 8 | 0 | 1 | 7 | 4 | 41 | | | | | 0 |
| | 5:00 PM | 2 | 12 | 0 | 8 | 8 | 2 | 4 | 10 | 2 | 0 | 7 | 8 | 62 | | | | | 0 |
| | 5:15 PM | 1 | 5 | 1 | 5 | 2 | 0 | 2 | 5 | 1 | 1 | 10 | 5 | 38 | | | | | 0 |
| | 5:30 PM | 0 | 9 | 1 | 12 | 3 | 2 | 6 | 11 | 2 | 1 | 8 | 7 | 62 | | | | | 0 |
| | 5:45 PM | 1 | 7 | 0 | 8 | 1 | 1 | 1 | 5 | 1 | 1 | 5 | 5 | 36 | | | | | 0 |
| | VOLUMES | 8 | 76 | 9 | 70 | 42 | 15 | 30 | 69 | 12 | 9 | 67 | 48 | 455 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 9% | 82% | 10% | 55% | 33% | 12% | 27% | 62% | 11% | 7% | 54% | 39% | | | | | | |
| | APP/DEPART | 93 | / | 154 | 127 | / | 63 | 111 | / | 148 | 124 | / | 90 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 | 258 | | | | | |
| | APPROACH % | 7% | 80% | 13% | 49% | 37% | 13% | 28% | 62% | 10% | 9% | 56% | 35% | | | | | | |
| | PEAK HR FACTOR | | 0.649 | | | 0.833 | | | 0.649 | | | 0.761 | | 0.842 | | | | | |
| | APP/DEPART | 55 | / | 84 | 75 | / | 40 | 61 | / | 82 | 67 | / | 52 | 0 | | | | | |

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

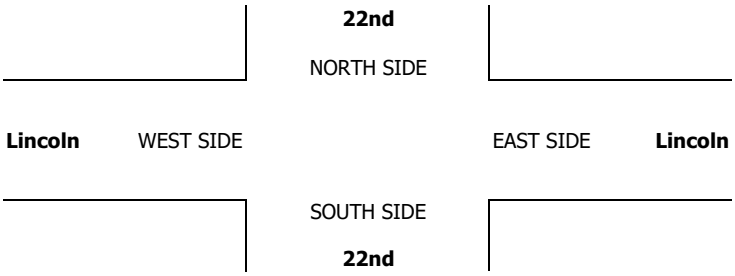
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 1:** PASSENGER VEHICLES

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 8 | 0 | 6 | 5 | 2 | 3 | 3 | 0 | 0 | 3 | 4 | 34 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 3 | 1 | 2 | 3 | 1 | 3 | 12 | 1 | 1 | 2 | 6 | 35 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 1 | 3 | 3 | 3 | 3 | 1 | 0 | 8 | 2 | 1 | 6 | 3 | 34 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 1 | 7 | 2 | 6 | 6 | 2 | 5 | 6 | 2 | 0 | 12 | 7 | 56 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 4 | 1 | 0 | 11 | 11 | 2 | 4 | 6 | 2 | 4 | 4 | 7 | 56 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 2 | 18 | 4 | 6 | 15 | 2 | 3 | 9 | 2 | 1 | 12 | 7 | 81 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 4 | 8 | 1 | 5 | 4 | 3 | 2 | 6 | 0 | 1 | 8 | 8 | 50 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 6 | 0 | 6 | 7 | 2 | 7 | 6 | 2 | 1 | 7 | 3 | 47 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 12 | 54 | 11 | 45 | 54 | 15 | 27 | 56 | 11 | 9 | 54 | 45 | 393 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 16% | 70% | 14% | 39% | 47% | 13% | 29% | 60% | 12% | 8% | 50% | 42% | | | | | | |
| | APP/DEPART | 77 | / | 126 | 114 | / | 74 | 94 | / | 112 | 108 | / | 81 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 11 | 34 | 7 | 28 | 36 | 9 | 14 | 27 | 6 | 6 | 36 | 29 | 243 | | | | | |
| | APPROACH % | 21% | 65% | 13% | 38% | 49% | 12% | 30% | 57% | 13% | 8% | 51% | 41% | | | | | | |
| | PEAK HR FACTOR | | 0.542 | | | 0.760 | | | 0.839 | | | 0.888 | | 0.750 | | | | | |
| | APP/DEPART | 52 | / | 77 | 73 | / | 48 | 47 | / | 62 | 71 | / | 56 | 0 | | | | | |
| PM | 4:00 PM | 1 | 15 | 2 | 9 | 9 | 3 | 5 | 6 | 3 | 2 | 6 | 5 | 66 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 2 | 12 | 3 | 9 | 5 | 4 | 2 | 5 | 1 | 1 | 10 | 8 | 62 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 1 | 7 | 1 | 11 | 8 | 2 | 7 | 11 | 2 | 2 | 7 | 5 | 64 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 5 | 1 | 5 | 3 | 1 | 3 | 8 | 0 | 1 | 7 | 4 | 38 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 2 | 10 | 0 | 8 | 8 | 2 | 4 | 10 | 2 | 0 | 5 | 5 | 56 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 1 | 5 | 1 | 5 | 2 | 0 | 2 | 5 | 1 | 1 | 8 | 3 | 34 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 9 | 1 | 12 | 3 | 2 | 6 | 11 | 2 | 1 | 8 | 7 | 62 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 1 | 7 | 0 | 8 | 1 | 1 | 1 | 5 | 1 | 1 | 5 | 5 | 36 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 8 | 70 | 9 | 67 | 39 | 15 | 30 | 61 | 12 | 9 | 56 | 42 | 418 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 9% | 80% | 10% | 55% | 32% | 12% | 29% | 59% | 12% | 8% | 52% | 39% | | | | | | |
| | APP/DEPART | 87 | / | 142 | 121 | / | 60 | 103 | / | 137 | 107 | / | 79 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 4 | 39 | 7 | 34 | 25 | 10 | 17 | 30 | 6 | 6 | 30 | 22 | 230 | | | | | |
| | APPROACH % | 8% | 78% | 14% | 49% | 36% | 14% | 32% | 57% | 11% | 10% | 52% | 38% | | | | | | |
| | PEAK HR FACTOR | | 0.694 | | | 0.821 | | | 0.663 | | | 0.763 | | 0.871 | | | | | |
| | APP/DEPART | 50 | / | 78 | 69 | / | 37 | 53 | / | 71 | 58 | / | 44 | 0 | | | | | |



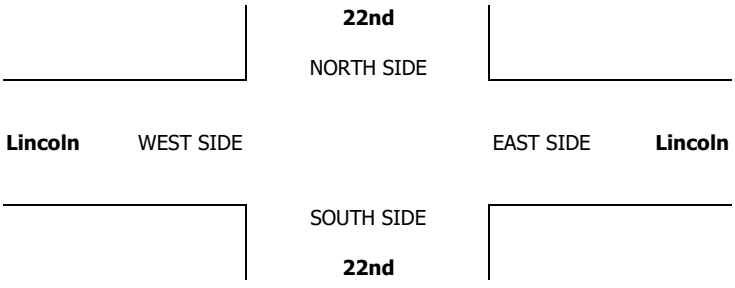
# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS | NOTES: | AM / PM / MD / OTHER / OTHER | ▲ N / ◄ W / E ► / S ▼ |
|---|---|---|---|

| | | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 8 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 5 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 6 | 0 | 7 | 3 | 0 | 1 | 4 | 0 | 0 | 12 | 8 | 41 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 100% | 0% | 70% | 30% | 0% | 20% | 80% | 0% | 0% | 60% | 40% | | | | | | |
| | APP/DEPART | 6 | / | 15 | 10 | / | 3 | 5 | / | 11 | 20 | / | 12 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 5 | 0 | 4 | 2 | 0 | 1 | 2 | 0 | 0 | 4 | 2 | 20 | | | | | |
| | APPROACH % | 0% | 100% | 0% | 67% | 33% | 0% | 33% | 67% | 0% | 0% | 67% | 33% | | | | | | |
| | PEAK HR FACTOR | | 0.417 | | | 0.500 | | | 0.375 | | | 0.750 | | 0.625 | | | | | |
| | APP/DEPART | 5 | / | 8 | 6 | / | 2 | 3 | / | 6 | 6 | / | 4 | 0 | | | | | |
| PM | 4:00 PM | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 4 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 14 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 100% | 0% | 50% | 50% | 0% | 0% | 100% | 0% | 0% | 50% | 50% | | | | | | |
| | APP/DEPART | 4 | / | 6 | 4 | / | 2 | 2 | / | 4 | 4 | / | 2 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 3 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 11 | | | | | |
| | APPROACH % | 0% | 100% | 0% | 50% | 50% | 0% | 0% | 100% | 0% | 0% | 50% | 50% | | | | | | |
| | PEAK HR FACTOR | | 0.375 | | | 0.500 | | | 0.500 | | | 0.250 | | 0.550 | | | | | |
| | APP/DEPART | 3 | / | 4 | 4 | / | 2 | 2 | / | 4 | 2 | / | 1 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

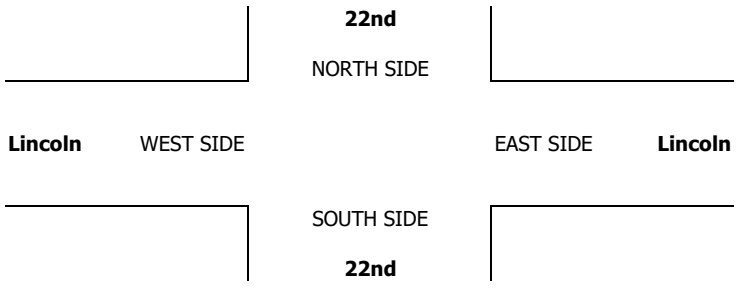
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 3:** 3-AXLE TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| **AM** | | | | | | | | | | | | | | | | | | |
| 7:00 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 1 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 3 | 1 | 13 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 20% | 80% | 0% | 0% | 0% | 0% | 25% | 25% | 50% | 0% | 75% | 25% | | | | | | |
| APP/DEPART | 5 | / | 6 | 0 | / | 2 | 4 | / | 1 | 4 | / | 4 | 0 | | | | | |
| BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 4 | | | | | |
| APPROACH % | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 100% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.500 | | | 0.000 | | | 0.250 | | | 0.250 | | 0.500 | | | | | |
| APP/DEPART | 2 | / | 2 | 0 | / | 1 | 1 | / | 0 | 1 | / | 1 | 0 | | | | | |
| **PM** | | | | | | | | | | | | | | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 100% | 0% | | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 1 | / | 1 | 0 | | | | | |
| BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.250 | | | 0.000 | | 0.250 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

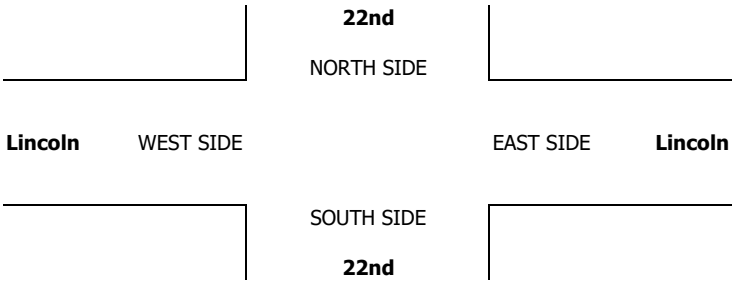
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 4:** 4 OR MORE AXLE TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| **AM** | | | | | | | | | | | | | | | | | | |
| 7:00 AM | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 6 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 50% | 50% | 0% | 50% | 0% | 50% | 0% | 0% | 0% | 0% | 50% | 50% | | | | | | |
| APP/DEPART | 2 | / | 2 | 2 | / | 0 | 0 | / | 1 | 2 | / | 3 | 0 | | | | | |
| BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | | | | | |
| APPROACH % | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.250 | | | 0.000 | | | 0.250 | | 0.250 | | | | | |
| APP/DEPART | 0 | / | 0 | 1 | / | 0 | 0 | / | 1 | 1 | / | 1 | 0 | | | | | |
| **PM** | | | | | | | | | | | | | | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 67% | 33% | | | | | | |
| APP/DEPART | 0 | / | 1 | 0 | / | 0 | 0 | / | 0 | 3 | / | 2 | 0 | | | | | |
| BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.500 | | 0.500 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 2 | / | 2 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

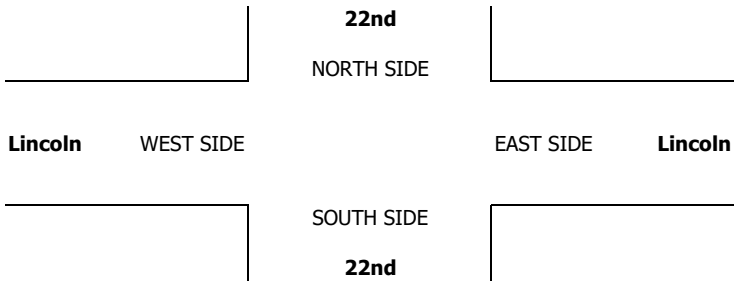
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| CLASS 5: | NOTES: |
|---|---|
| RV | |

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

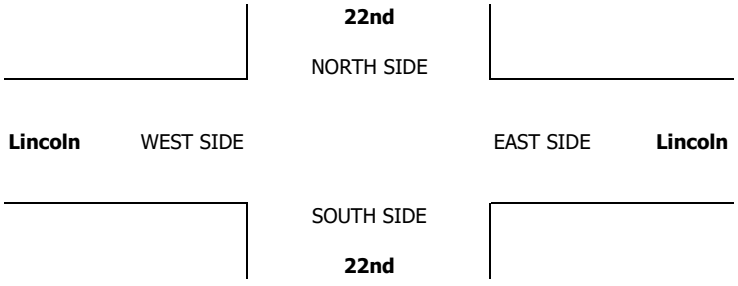
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 22nd | LOCATION #: | 1 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| CLASS 6: | NOTES: |
|---|---|
| BUSES | |

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 22nd | | | SOUTHBOUND 22nd | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT 2 | NR 0 | SL 0 | ST 2 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| **AM** | | | | | | | | | | | | | | | | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| **PM** | | | | | | | | | | | | | | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |
| BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.250 | | | 0.000 | | 0.250 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

T42321

DATE: Tue, Aug 15, 23

LOCATION: Banning
NORTH & SOUTH: 12th
EAST & WEST: Lincoln

PROJECT #: SC4158
LOCATION #: 3
CONTROL: STOP N

NOTES:

AM / PM / MD / OTHER / OTHER

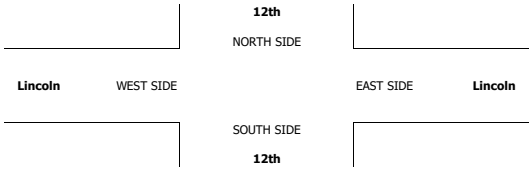
▲ N ◄ W E ► S ▼

| | | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 14 |
| | 7:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 18 | 0 | 1 | 12 | 0 | 32 |
| | 7:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 17 | 0 | 1 | 8 | 0 | 28 |
| | 7:45 AM | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 13 | 0 | 1 | 16 | 0 | 36 |
| | 8:00 AM | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 13 | 2 | 1 | 13 | 0 | 32 |
| | 8:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 20 | 0 | 4 | 21 | 0 | 47 |
| | 8:30 AM | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 13 | 2 | 5 | 12 | 0 | 37 |
| | 8:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 | 0 | 2 | 17 | 0 | 33 |
| | VOLUMES | 4 | 0 | 16 | 0 | 0 | 0 | 0 | 114 | 4 | 15 | 106 | 0 | 259 |
| | APPROACH % | 20% | 0% | 80% | 0% | 0% | 0% | 0% | 97% | 3% | 12% | 88% | 0% | |
| | APP/DEPART | 20 | / | 0 | 0 | / | 19 | 118 | / | 130 | 121 | / | 110 | 0 |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | |
| | VOLUMES | 4 | 0 | 12 | 0 | 0 | 0 | 0 | 59 | 4 | 11 | 62 | 0 | 152 |
| | APPROACH % | 25% | 0% | 75% | 0% | 0% | 0% | 0% | 94% | 6% | 15% | 85% | 0% | |
| | PEAK HR FACTOR | | 0.667 | | | 0.000 | | | 0.788 | | | 0.730 | | 0.809 |
| | APP/DEPART | 16 | / | 0 | 0 | / | 15 | 63 | / | 71 | 73 | / | 66 | 0 |
| PM | 4:00 PM | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 17 | 0 | 3 | 16 | 0 | 38 |
| | 4:15 PM | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 13 | 2 | 1 | 18 | 0 | 38 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 2 | 13 | 0 | 38 |
| | 4:45 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 0 | 11 | 0 | 23 |
| | 5:00 PM | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 12 | 0 | 31 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 3 | 11 | 0 | 22 |
| | 5:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 1 | 1 | 14 | 0 | 37 |
| | 5:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 11 | 1 | 1 | 12 | 0 | 27 |
| | VOLUMES | 5 | 0 | 9 | 0 | 0 | 0 | 0 | 116 | 5 | 12 | 107 | 0 | 254 |
| | APPROACH % | 36% | 0% | 64% | 0% | 0% | 0% | 0% | 96% | 4% | 10% | 90% | 0% | |
| | APP/DEPART | 14 | / | 0 | 0 | / | 17 | 121 | / | 125 | 119 | / | 112 | 0 |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | |
| | VOLUMES | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 63 | 3 | 6 | 58 | 0 | 137 |
| | APPROACH % | 57% | 0% | 43% | 0% | 0% | 0% | 0% | 95% | 5% | 9% | 91% | 0% | |
| | PEAK HR FACTOR | | 0.438 | | | 0.000 | | | 0.717 | | | 0.842 | | 0.901 |
| | APP/DEPART | 7 | / | 0 | 0 | / | 9 | 66 | / | 66 | 64 | / | 62 | 0 |

**U-TURNS**

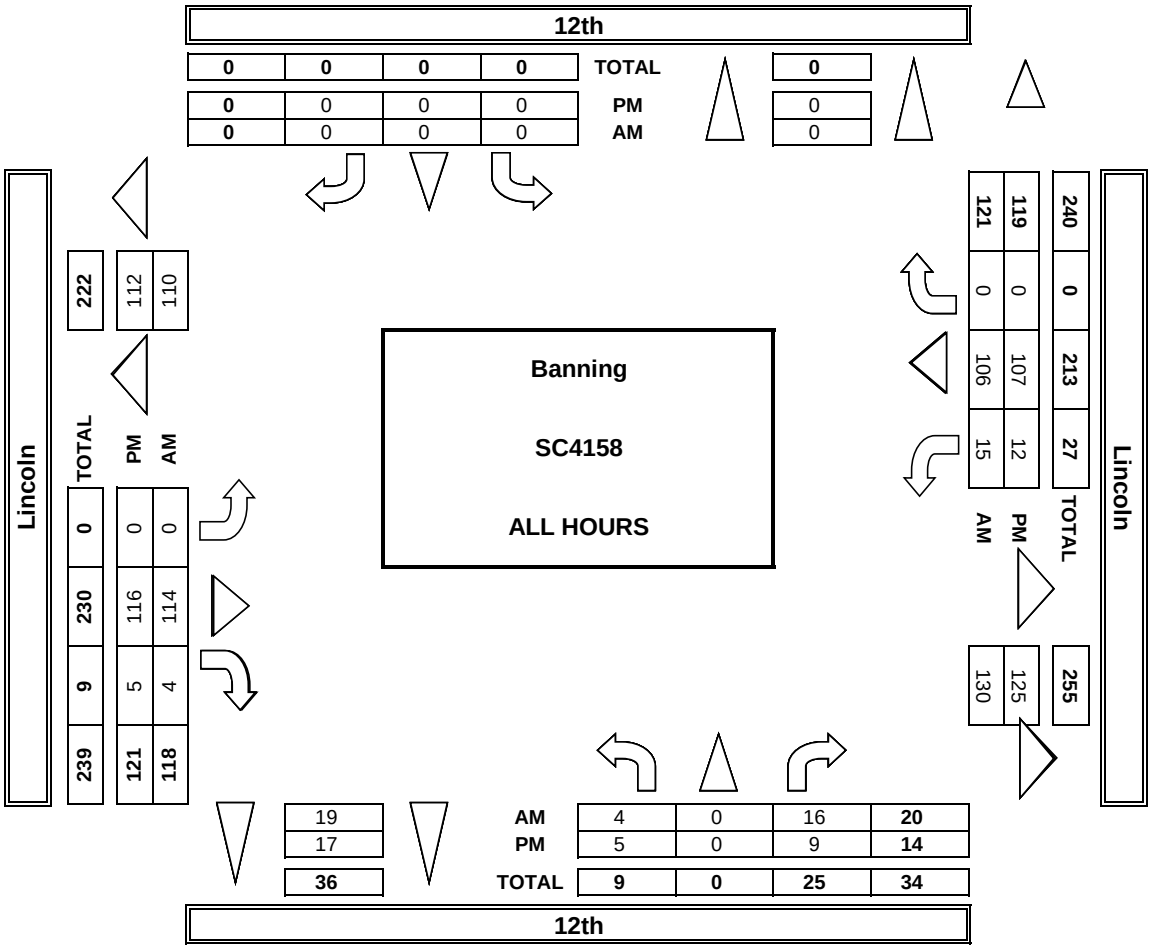
| AM NB | SB | EB | WB | TTL |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |

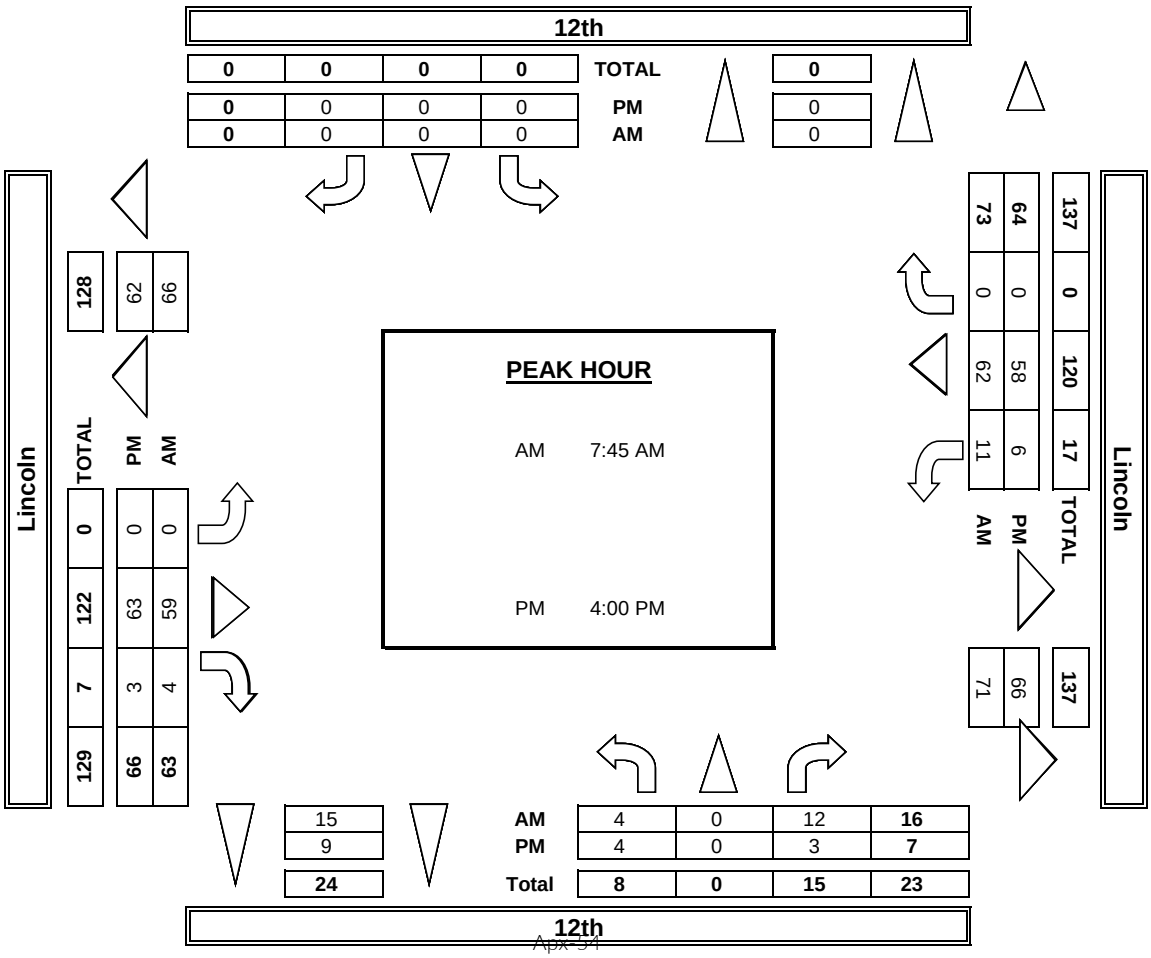
| PM NB | SB | EB | WB | TTL |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |



**AimTD LLC**

TURNING MOVEMENT COUNTS



## INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

| | NOTES: | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCE | Class | 1 | 2 | 3 | 4 | 5 | 6 | | | AM | | ▲ N | |
| Adjusted | Factor | 1 | 1.5 | 2 | 3 | 3 | 3 | | | PM MD | ◄ W | | E ► |
| | | | | | | | | | | OTHER | | S ▼ | |
| | | | | | | | | | | OTHER | | | |

| | | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 9 | 0 | 18 | | | | | 0 |
| | 7:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 19 | 0 | 1 | 16 | 0 | 36 | | | | | 0 |
| | 7:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 18 | 0 | 1 | 10 | 0 | 31 | | | | | 0 |
| | 7:45 AM | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 19 | 0 | 40 | | | | | 0 |
| | 8:00 AM | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 14 | 2 | 2 | 14 | 0 | 34 | | | | | 0 |
| | 8:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 21 | 0 | 4 | 21 | 0 | 48 | | | | | 0 |
| | 8:30 AM | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 14 | 2 | 7 | 16 | 0 | 45 | | | | | 0 |
| | 8:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 | 0 | 2 | 21 | 0 | 37 | | | | | 0 |
| | VOLUMES | 5 | 0 | 17 | 0 | 0 | 0 | 0 | 120 | 4 | 18 | 124 | 0 | 286 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 21% | 0% | 79% | 0% | 0% | 0% | 0% | 97% | 3% | 12% | 88% | 0% | | | | | | |
| | APP/DEPART | 21 | / | 0 | 0 | / | 22 | 124 | / | 136 | 142 | / | 129 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 | 166 | | | | | |
| | APPROACH % | 26% | 0% | 74% | 0% | 0% | 0% | 0% | 94% | 6% | 16% | 84% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.708 | | | 0.000 | | | 0.799 | | | 0.830 | | 0.871 | | | | | |
| | APP/DEPART | 17 | / | 0 | 0 | / | 18 | 66 | / | 74 | 83 | / | 74 | 0 | | | | | |
| PM | 4:00 PM | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 0 | 3 | 17 | 0 | 42 | | | | | 0 |
| | 4:15 PM | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 14 | 2 | 1 | 20 | 0 | 41 | | | | | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 2 | 15 | 0 | 42 | | | | | 0 |
| | 4:45 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 1 | 0 | 11 | 0 | 24 | | | | | 0 |
| | 5:00 PM | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 15 | 0 | 34 | | | | | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 4 | 13 | 0 | 24 | | | | | 0 |
| | 5:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 1 | 1 | 14 | 0 | 37 | | | | | 0 |
| | 5:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 11 | 1 | 1 | 13 | 0 | 28 | | | | | 0 |
| | VOLUMES | 5 | 0 | 9 | 0 | 0 | 0 | 0 | 121 | 5 | 13 | 117 | 0 | 269 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 36% | 0% | 64% | 0% | 0% | 0% | 0% | 96% | 4% | 10% | 90% | 0% | | | | | | |
| | APP/DEPART | 14 | / | 0 | 0 | / | 18 | 126 | / | 130 | 129 | / | 122 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 | 147 | | | | | |
| | APPROACH % | 57% | 0% | 43% | 0% | 0% | 0% | 0% | 96% | 4% | 9% | 91% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.438 | | | 0.000 | | | 0.724 | | | 0.821 | | 0.886 | | | | | |
| | APP/DEPART | 7 | / | 0 | 0 | / | 9 | 71 | / | 71 | 69 | / | 67 | 0 | | | | | |

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

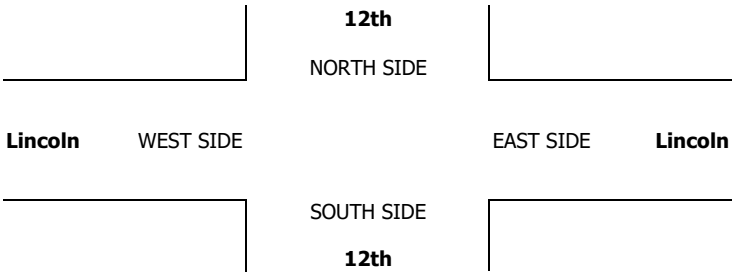
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

**CLASS 1:** PASSENGER VEHICLES

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 3 | 0 | 8 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 17 | 0 | 1 | 7 | 0 | 26 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 15 | 0 | 1 | 5 | 0 | 23 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 12 | 0 | 1 | 13 | 0 | 32 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 12 | 2 | 0 | 12 | 0 | 28 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 19 | 0 | 4 | 21 | 0 | 46 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 11 | 2 | 2 | 8 | 0 | 27 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 | 0 | 2 | 11 | 0 | 27 | 0 | 0 | 0 | 0 | 0 |
| AM VOLUMES | 3 | 0 | 15 | 0 | 0 | 0 | 0 | 104 | 4 | 11 | 80 | 0 | 217 | 0 | 0 | 0 | 0 | 0 |
| AM APPROACH % | 17% | 0% | 83% | 0% | 0% | 0% | 0% | 96% | 4% | 12% | 88% | 0% | | | | | | |
| AM APP/DEPART | 18 | / | 0 | 0 | / | 15 | 108 | / | 119 | 91 | / | 83 | 0 | | | | | |
| BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| AM VOLUMES | 3 | 0 | 11 | 0 | 0 | 0 | 0 | 54 | 4 | 7 | 54 | 0 | 133 | | | | | |
| AM APPROACH % | 21% | 0% | 79% | 0% | 0% | 0% | 0% | 93% | 7% | 11% | 89% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.583 | | | 0.000 | | | 0.763 | | | 0.610 | | 0.723 | | | | | |
| AM APP/DEPART | 14 | / | 0 | 0 | / | 11 | 58 | / | 65 | 61 | / | 57 | 0 | | | | | |
| 4:00 PM | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 15 | 0 | 3 | 14 | 0 | 34 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 12 | 2 | 1 | 17 | 0 | 36 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 2 | 12 | 0 | 35 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 1 | 0 | 11 | 0 | 22 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 10 | 0 | 29 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 2 | 9 | 0 | 19 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 1 | 1 | 14 | 0 | 37 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 11 | 1 | 1 | 11 | 0 | 26 | 0 | 0 | 0 | 0 | 0 |
| PM VOLUMES | 5 | 0 | 9 | 0 | 0 | 0 | 0 | 110 | 5 | 11 | 98 | 0 | 238 | 0 | 0 | 0 | 0 | 0 |
| PM APPROACH % | 36% | 0% | 64% | 0% | 0% | 0% | 0% | 96% | 4% | 10% | 90% | 0% | | | | | | |
| PM APP/DEPART | 14 | / | 0 | 0 | / | 16 | 115 | / | 119 | 109 | / | 103 | 0 | | | | | |
| BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| PM VOLUMES | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 57 | 3 | 6 | 54 | 0 | 127 | | | | | |
| PM APPROACH % | 57% | 0% | 43% | 0% | 0% | 0% | 0% | 95% | 5% | 10% | 90% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.438 | | | 0.000 | | | 0.714 | | | 0.833 | | 0.882 | | | | | |
| PM APP/DEPART | 7 | / | 0 | 0 | / | 9 | 60 | / | 60 | 60 | / | 58 | 0 | | | | | |



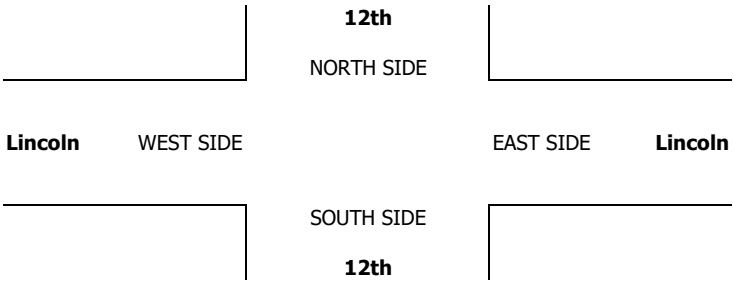
# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

| CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS | NOTES: | AM / PM / MD / OTHER / OTHER | ▲ N / ◄ W / E ► / S ▼ |
|---|---|---|---|

| | | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 9 | 0 | 3 | 20 | 0 | 34 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 50% | 0% | 50% | 0% | 0% | 0% | 0% | 100% | 0% | 13% | 87% | 0% | | | | | | |
| | APP/DEPART | 2 | / | 0 | 0 | / | 3 | 9 | / | 10 | 23 | / | 21 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 0 | 3 | 5 | 0 | 15 | | | | | |
| | APPROACH % | 50% | 0% | 50% | 0% | 0% | 0% | 0% | 100% | 0% | 38% | 63% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.500 | | | 0.000 | | | 0.625 | | | 0.500 | | 0.536 | | | | | |
| | APP/DEPART | 2 | / | 0 | 0 | / | 3 | 5 | / | 6 | 8 | / | 6 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 5 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 17% | 83% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 1 | 4 | / | 4 | 6 | / | 5 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 0 | 6 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 100% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 1.000 | | | 0.250 | | 0.500 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 4 | / | 4 | 2 | / | 2 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

| CLASS 3: | NOTES: | AM / PM / MD / OTHER / OTHER | ▲ N / ◄ W / E ► / S ▼ |
|---|---|---|---|
| 3-AXLE TRUCKS | | | |

| | | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 4 | 0 | 6 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 20% | 80% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 1 | 1 | / | 1 | 5 | / | 4 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 50% | 50% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.250 | | 0.250 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 1 | 0 | / | 0 | 2 | / | 1 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 100% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 1 | / | 1 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.250 | | | 0.000 | | 0.250 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |

**12th**

NORTH SIDE

**Lincoln** WEST SIDE EAST SIDE **Lincoln**

SOUTH SIDE

**12th**

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

**CLASS 4:** 4 OR MORE AXLE TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AM VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| AM APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| AM APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 2 | / | 2 | 0 | | | | | |
| AM BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| AM PEAK VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | | | | | |
| AM PEAK APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| AM PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.500 | | 0.500 | | | | | |
| AM PEAK APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 2 | / | 2 | 0 | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| PM APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| PM APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 3 | / | 3 | 0 | | | | | |
| PM BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| PM PEAK VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | | | | | |
| PM PEAK APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | | | | | | |
| PM PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.500 | | 0.500 | | | | | |
| PM PEAK APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 2 | / | 2 | 0 | | | | | |

**12th**

NORTH SIDE

**Lincoln** WEST SIDE EAST SIDE **Lincoln**

SOUTH SIDE

**12th**

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

| CLASS 5: | NOTES: |
|---|---|
| RV | |

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |

**12th**

NORTH SIDE

**Lincoln** WEST SIDE EAST SIDE **Lincoln**

SOUTH SIDE

**12th**

# INTERSECTION TURNING MOVEMENT COUNTS

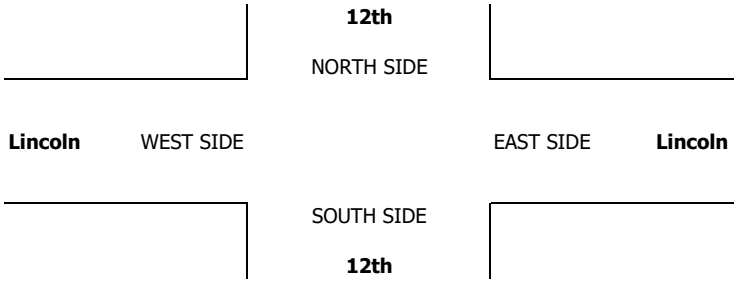
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 12th | LOCATION #: | 3 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP N |

| CLASS 6: | NOTES: |
|---|---|
| BUSES | |

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 12th | | | SOUTHBOUND 12th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT X | NR 0 | SL X | ST X | SR X | EL X | ET 1 | ER 0 | WL 0 | WT 1 | WR X | TOTAL | NB | SB | EB | WB | TTL |
| **AM** | | | | | | | | | | | | | | | | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| **PM** | | | | | | | | | | | | | | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |
| BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | | | | | |
| APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | | | | | | |
| PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.250 | | | 0.000 | | 0.250 | | | | | |
| APP/DEPART | 0 | / | 0 | 0 | / | 0 | 1 | / | 1 | 0 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Aug 15, 23

LOCATION: Banning
NORTH & SOUTH: 8th
EAST & WEST: Lincoln

PROJECT #: SC4158
LOCATION #: 2
CONTROL: STOP ALL

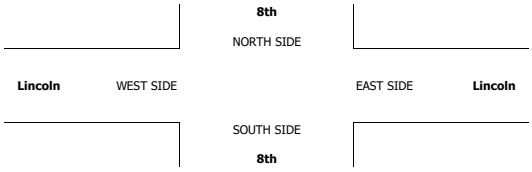
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N
◄ W
E ►
S ▼

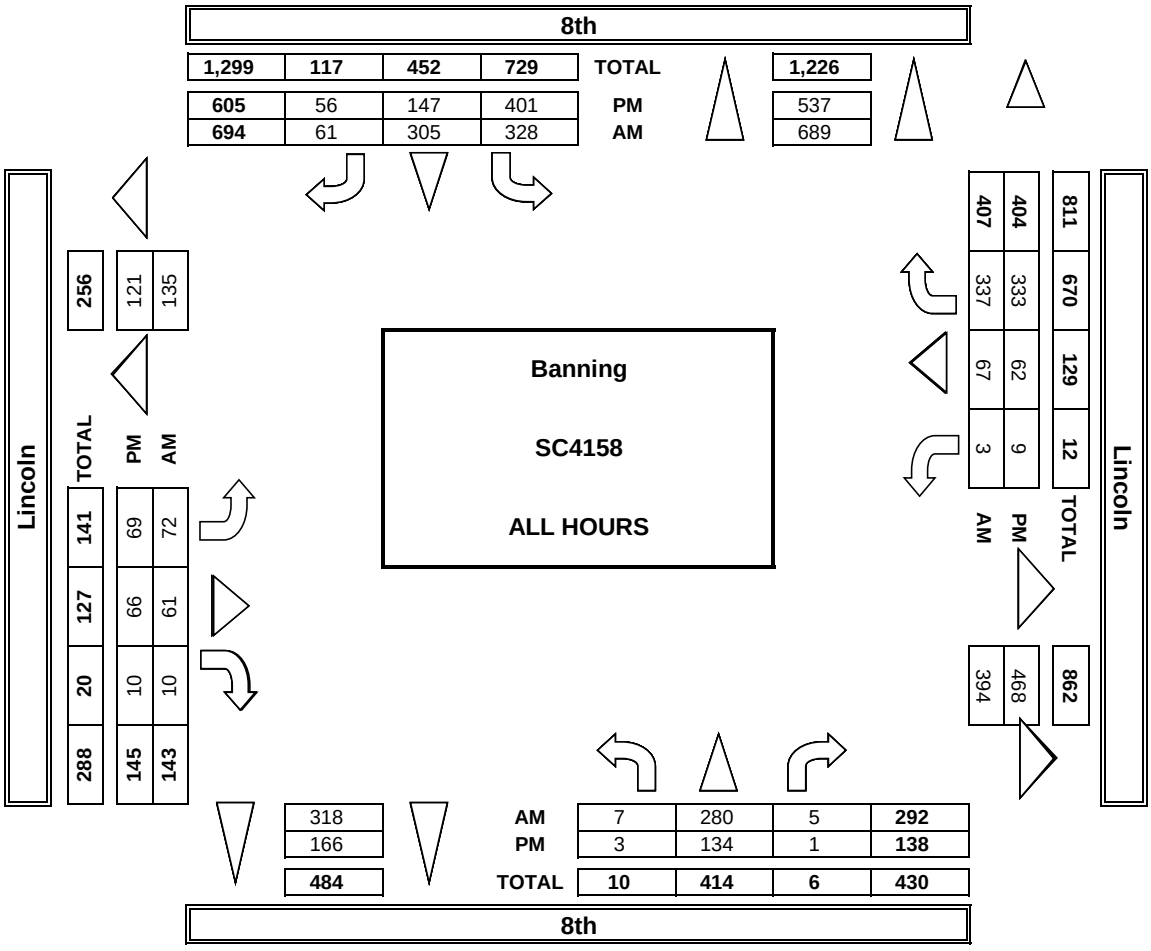
| | | NORTHBOUND (8th) | | | SOUTHBOUND (8th) | | | EASTBOUND (Lincoln) | | | WESTBOUND (Lincoln) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL |
| AM | 7:00 AM | 2 | 22 | 0 | 39 | 30 | 6 | 4 | 4 | 3 | 1 | 3 | 19 | 133 |
| | 7:15 AM | 2 | 25 | 0 | 35 | 26 | 9 | 10 | 5 | 3 | 1 | 6 | 41 | 163 |
| | 7:30 AM | 0 | 24 | 1 | 37 | 21 | 4 | 10 | 7 | 1 | 0 | 4 | 41 | 150 |
| | 7:45 AM | 1 | 35 | 0 | 49 | 42 | 5 | 7 | 9 | 1 | 0 | 10 | 42 | 201 |
| | 8:00 AM | 1 | 50 | 1 | 41 | 64 | 7 | 9 | 11 | 0 | 0 | 9 | 53 | 246 |
| | 8:15 AM | 1 | 76 | 1 | 39 | 82 | 9 | 10 | 13 | 0 | 0 | 16 | 54 | 301 |
| | 8:30 AM | 0 | 31 | 1 | 37 | 24 | 12 | 11 | 7 | 1 | 1 | 11 | 49 | 185 |
| | 8:45 AM | 0 | 17 | 1 | 51 | 16 | 9 | 11 | 5 | 1 | 0 | 8 | 38 | 157 |
| | VOLUMES | 7 | 280 | 5 | 328 | 305 | 61 | 72 | 61 | 10 | 3 | 67 | 337 | 1,536 |
| | APPROACH % | 2% | 96% | 2% | 47% | 44% | 9% | 50% | 43% | 7% | 1% | 16% | 83% | |
| | APP/DEPART | 292 | / | 689 | 694 | / | 318 | 143 | / | 394 | 407 | / | 135 | 0 |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | |
| | VOLUMES | 3 | 192 | 3 | 166 | 212 | 33 | 37 | 40 | 2 | 1 | 46 | 198 | 933 |
| | APPROACH % | 2% | 97% | 2% | 40% | 52% | 8% | 47% | 51% | 3% | 0% | 19% | 81% | |
| | PEAK HR FACTOR | | 0.635 | | | 0.790 | | | 0.859 | | | 0.875 | | 0.775 |
| | APP/DEPART | 198 | / | 427 | 411 | / | 215 | 79 | / | 209 | 245 | / | 82 | 0 |
| PM | 4:00 PM | 0 | 26 | 0 | 50 | 27 | 10 | 6 | 12 | 2 | 1 | 6 | 44 | 184 |
| | 4:15 PM | 0 | 23 | 0 | 48 | 18 | 11 | 6 | 9 | 1 | 0 | 9 | 42 | 167 |
| | 4:30 PM | 1 | 18 | 0 | 42 | 24 | 6 | 16 | 11 | 0 | 3 | 9 | 63 | 193 |
| | 4:45 PM | 1 | 13 | 0 | 51 | 17 | 4 | 9 | 4 | 1 | 1 | 7 | 37 | 145 |
| | 5:00 PM | 0 | 17 | 0 | 58 | 17 | 6 | 8 | 9 | 3 | 0 | 4 | 29 | 151 |
| | 5:15 PM | 0 | 9 | 1 | 58 | 14 | 5 | 3 | 6 | 1 | 2 | 11 | 50 | 160 |
| | 5:30 PM | 0 | 18 | 0 | 52 | 14 | 7 | 14 | 9 | 2 | 2 | 9 | 28 | 155 |
| | 5:45 PM | 1 | 10 | 0 | 42 | 16 | 7 | 7 | 6 | 0 | 0 | 7 | 40 | 136 |
| | VOLUMES | 3 | 134 | 1 | 401 | 147 | 56 | 69 | 66 | 10 | 9 | 62 | 333 | 1,292 |
| | APPROACH % | 2% | 97% | 1% | 66% | 24% | 9% | 48% | 46% | 7% | 2% | 15% | 82% | |
| | APP/DEPART | 138 | / | 537 | 605 | / | 166 | 145 | / | 468 | 404 | / | 121 | 0 |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | |
| | VOLUMES | 2 | 80 | 0 | 191 | 86 | 31 | 37 | 36 | 4 | 5 | 31 | 186 | 690 |
| | APPROACH % | 2% | 98% | 0% | 62% | 28% | 10% | 48% | 47% | 5% | 2% | 14% | 84% | |
| | PEAK HR FACTOR | | 0.788 | | | 0.888 | | | 0.713 | | | 0.740 | | 0.889 |
| | APP/DEPART | 82 | / | 304 | 309 | / | 95 | 77 | / | 227 | 222 | / | 64 | 0 |

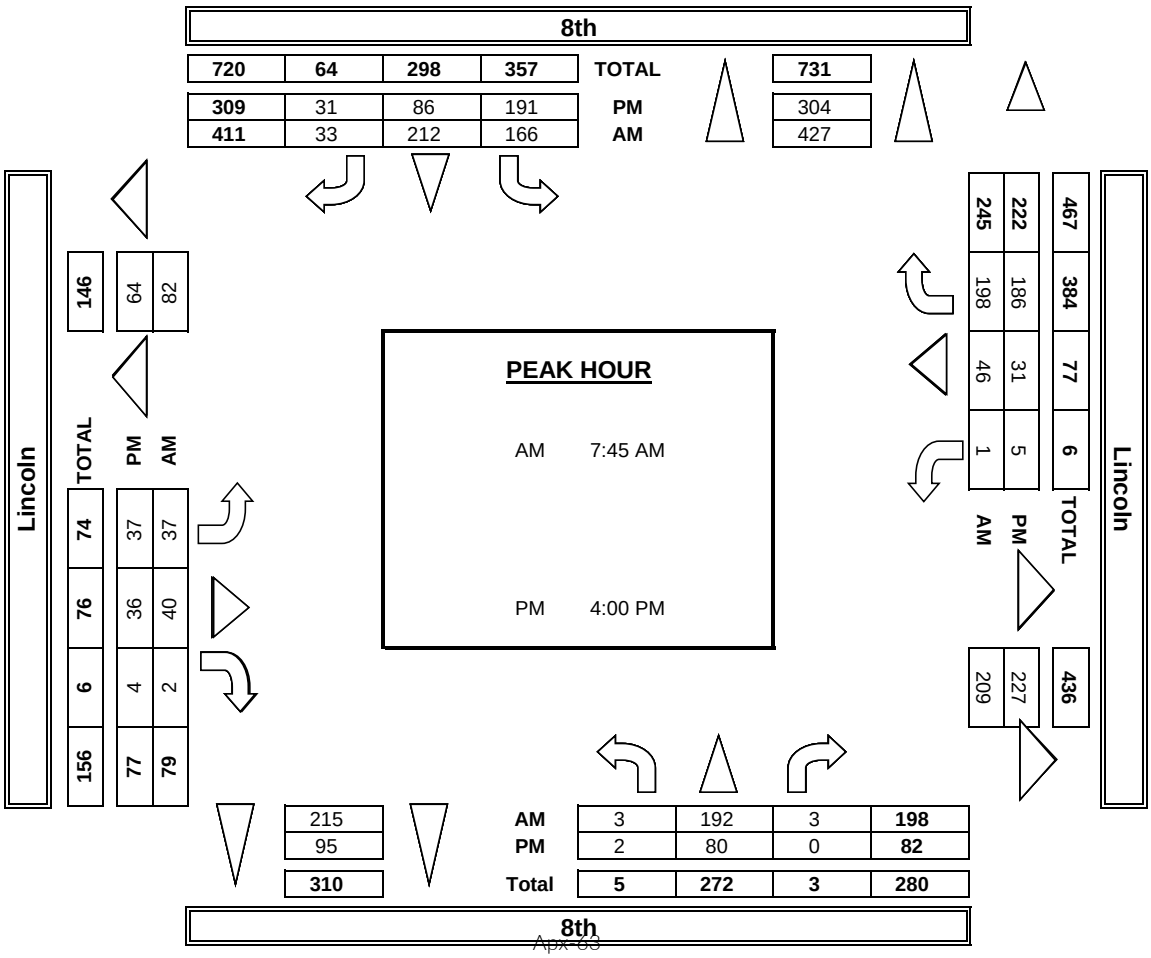
| U-TURNS | | | | |
|---|---|---|---|---|
| NB | SB | EB | WB | TTL |
| 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 1 |



**AimTD LLC**

TURNING MOVEMENT COUNTS



## INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| | NOTES: | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCE | Class | 1 | 2 | 3 | 4 | 5 | 6 | | | AM | | ▲ N | |
| Adjusted | Factor | 1 | 1.5 | 2 | 3 | 3 | 3 | | | PM MD | ◄ W | | E ► |
| | | | | | | | | | | OTHER | | S ▼ | |
| | | | | | | | | | | OTHER | | | |

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 2 | 22 | 0 | 47 | 34 | 7 | 6 | 6 | 3 | 1 | 4 | 19 | 149 | | | | | 0 |
| | 7:15 AM | 2 | 26 | 0 | 46 | 28 | 12 | 10 | 6 | 3 | 2 | 8 | 50 | 192 | | | | | 0 |
| | 7:30 AM | 0 | 25 | 1 | 44 | 21 | 5 | 11 | 7 | 1 | 0 | 5 | 46 | 164 | | | | | 0 |
| | 7:45 AM | 1 | 36 | 0 | 53 | 42 | 5 | 7 | 9 | 1 | 0 | 11 | 51 | 215 | | | | | 0 |
| | 8:00 AM | 1 | 51 | 1 | 47 | 65 | 8 | 11 | 12 | 0 | 0 | 9 | 61 | 264 | | | | | 0 |
| | 8:15 AM | 1 | 77 | 1 | 45 | 85 | 10 | 11 | 14 | 0 | 0 | 16 | 62 | 319 | | | | | 0 |
| | 8:30 AM | 0 | 31 | 1 | 41 | 24 | 15 | 13 | 8 | 1 | 1 | 15 | 57 | 206 | | | | | 0 |
| | 8:45 AM | 0 | 17 | 1 | 59 | 17 | 10 | 12 | 6 | 1 | 0 | 10 | 38 | 170 | | | | | 0 |
| | VOLUMES | 7 | 284 | 5 | 380 | 315 | 70 | 79 | 66 | 10 | 4 | 76 | 383 | 1,679 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 2% | 96% | 2% | 50% | 41% | 9% | 51% | 43% | 6% | 1% | 16% | 83% | | | | | | |
| | APP/DEPART | 296 | / | 746 | 765 | / | 329 | 155 | / | 451 | 463 | / | 153 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 | 1,004 | | | | | |
| | APPROACH % | 1% | 97% | 1% | 42% | 49% | 9% | 48% | 49% | 2% | 0% | 18% | 82% | | | | | | |
| | PEAK HR FACTOR | | 0.634 | | | 0.789 | | | 0.885 | | | 0.906 | | 0.786 | | | | | |
| | APP/DEPART | 201 | / | 465 | 437 | / | 218 | 85 | / | 230 | 281 | / | 91 | 0 | | | | | |
| PM | 4:00 PM | 0 | 26 | 0 | 59 | 27 | 10 | 6 | 14 | 2 | 1 | 7 | 50 | 201 | | | | | 0 |
| | 4:15 PM | 0 | 23 | 0 | 56 | 18 | 13 | 6 | 9 | 1 | 0 | 9 | 45 | 179 | | | | | 0 |
| | 4:30 PM | 1 | 18 | 0 | 46 | 24 | 7 | 17 | 11 | 0 | 3 | 12 | 64 | 202 | | | | | 0 |
| | 4:45 PM | 1 | 13 | 0 | 56 | 20 | 4 | 10 | 4 | 1 | 1 | 7 | 39 | 155 | | | | | 0 |
| | 5:00 PM | 0 | 17 | 0 | 64 | 17 | 8 | 9 | 9 | 3 | 0 | 6 | 29 | 162 | | | | | 0 |
| | 5:15 PM | 0 | 9 | 1 | 63 | 14 | 5 | 3 | 6 | 1 | 2 | 13 | 51 | 167 | | | | | 0 |
| | 5:30 PM | 0 | 18 | 0 | 58 | 14 | 7 | 14 | 9 | 2 | 4 | 9 | 29 | 164 | | | | | 0 |
| | 5:45 PM | 1 | 10 | 0 | 46 | 17 | 7 | 9 | 6 | 0 | 0 | 8 | 40 | 144 | | | | | 0 |
| | VOLUMES | 3 | 134 | 1 | 446 | 151 | 61 | 73 | 68 | 10 | 11 | 70 | 344 | 1,371 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 2% | 97% | 1% | 68% | 23% | 9% | 48% | 45% | 7% | 3% | 16% | 81% | | | | | | |
| | APP/DEPART | 138 | / | 551 | 658 | / | 172 | 151 | / | 515 | 425 | / | 133 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 | 736 | | | | | |
| | APPROACH % | 2% | 98% | 0% | 64% | 26% | 10% | 48% | 47% | 5% | 2% | 14% | 83% | | | | | | |
| | PEAK HR FACTOR | | 0.788 | | | 0.885 | | | 0.719 | | | 0.753 | | 0.913 | | | | | |
| | APP/DEPART | 82 | / | 315 | 338 | / | 98 | 81 | / | 254 | 235 | / | 70 | 0 | | | | | |

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

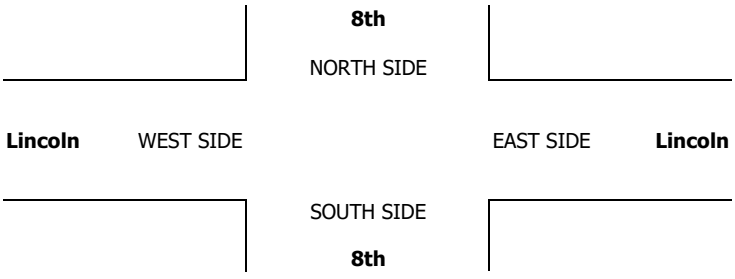
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 1:** PASSENGER VEHICLES

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 2 | 22 | 0 | 32 | 28 | 5 | 1 | 2 | 3 | 1 | 2 | 19 | 117 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 2 | 24 | 0 | 25 | 25 | 7 | 10 | 4 | 3 | 0 | 4 | 34 | 138 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 23 | 1 | 30 | 21 | 3 | 8 | 7 | 1 | 0 | 3 | 37 | 134 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 1 | 34 | 0 | 44 | 42 | 5 | 7 | 9 | 1 | 0 | 9 | 35 | 187 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 1 | 48 | 1 | 34 | 63 | 5 | 6 | 10 | 0 | 0 | 9 | 46 | 223 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 1 | 75 | 1 | 34 | 80 | 8 | 9 | 12 | 0 | 0 | 16 | 48 | 284 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 31 | 1 | 33 | 24 | 9 | 10 | 5 | 1 | 1 | 5 | 43 | 163 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 17 | 1 | 44 | 15 | 8 | 10 | 3 | 1 | 0 | 5 | 38 | 142 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 7 | 274 | 5 | 276 | 298 | 50 | 61 | 52 | 10 | 2 | 53 | 300 | 1,388 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 2% | 96% | 2% | 44% | 48% | 8% | 50% | 42% | 8% | 1% | 15% | 85% | | | | | | |
| | APP/DEPART | 286 | / | 635 | 624 | / | 310 | 123 | / | 333 | 355 | / | 110 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 3 | 188 | 3 | 145 | 209 | 27 | 32 | 36 | 2 | 1 | 39 | 172 | 857 | | | | | |
| | APPROACH % | 2% | 97% | 2% | 38% | 55% | 7% | 46% | 51% | 3% | 0% | 18% | 81% | | | | | | |
| | PEAK HR FACTOR | | 0.630 | | | 0.781 | | | 0.833 | | | 0.828 | | 0.754 | | | | | |
| | APP/DEPART | 194 | / | 392 | 381 | / | 212 | 70 | / | 184 | 212 | / | 69 | 0 | | | | | |
| PM | 4:00 PM | 0 | 26 | 0 | 42 | 27 | 10 | 6 | 11 | 2 | 1 | 5 | 39 | 169 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 23 | 0 | 42 | 18 | 10 | 6 | 9 | 1 | 0 | 9 | 40 | 158 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 1 | 18 | 0 | 37 | 24 | 5 | 15 | 11 | 0 | 3 | 7 | 62 | 183 | 0 | 1 | 0 | 0 | 1 |
| | 4:45 PM | 1 | 13 | 0 | 48 | 14 | 4 | 8 | 4 | 1 | 1 | 7 | 35 | 136 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 17 | 0 | 53 | 17 | 5 | 7 | 9 | 3 | 0 | 3 | 29 | 143 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 9 | 1 | 54 | 14 | 5 | 3 | 6 | 1 | 2 | 8 | 49 | 152 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 18 | 0 | 48 | 14 | 7 | 14 | 9 | 2 | 1 | 9 | 27 | 149 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 1 | 10 | 0 | 40 | 15 | 7 | 6 | 6 | 0 | 0 | 6 | 40 | 131 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 3 | 134 | 1 | 364 | 143 | 53 | 65 | 65 | 10 | 8 | 54 | 321 | 1,222 | 0 | 1 | 0 | 0 | 1 |
| | APPROACH % | 2% | 97% | 1% | 65% | 25% | 9% | 46% | 46% | 7% | 2% | 14% | 84% | | | | | | |
| | APP/DEPART | 138 | / | 521 | 561 | / | 161 | 140 | / | 430 | 383 | / | 110 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 2 | 80 | 0 | 169 | 83 | 29 | 35 | 35 | 4 | 5 | 28 | 176 | 647 | | | | | |
| | APPROACH % | 2% | 98% | 0% | 60% | 29% | 10% | 47% | 47% | 5% | 2% | 13% | 84% | | | | | | |
| | PEAK HR FACTOR | | 0.788 | | | 0.892 | | | 0.712 | | | 0.726 | | 0.879 | | | | | |
| | APP/DEPART | 82 | / | 292 | 282 | / | 92 | 74 | / | 204 | 209 | / | 59 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

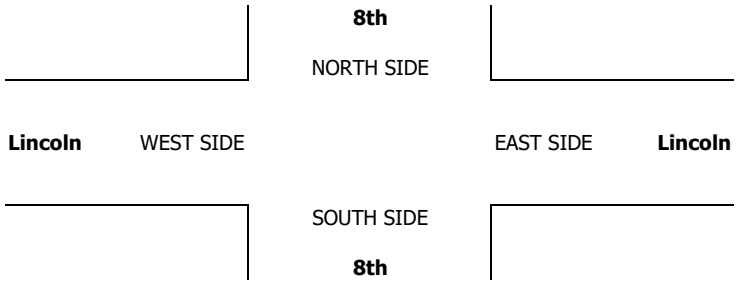
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 2:** 2-AXLE WORK VEHICLES/ TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 4 | 0 | 1 | 3 | 1 | 0 | 0 | 1 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 10 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 1 | 0 | 5 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 2 | 12 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 9 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 2 | 0 | 5 | 1 | 2 | 3 | 1 | 0 | 0 | 0 | 4 | 18 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 10 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 2 | 0 | 0 | 4 | 3 | 14 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 4 | 0 | 1 | 1 | 2 | 0 | 0 | 2 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 4 | 0 | 34 | 2 | 8 | 10 | 8 | 0 | 0 | 10 | 17 | 93 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 100% | 0% | 77% | 5% | 18% | 56% | 44% | 0% | 0% | 37% | 63% | | | | | | |
| | APP/DEPART | 4 | / | 31 | 44 | / | 2 | 18 | / | 42 | 27 | / | 18 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 3 | 0 | 15 | 2 | 5 | 4 | 4 | 0 | 0 | 5 | 13 | 51 | | | | | |
| | APPROACH % | 0% | 100% | 0% | 68% | 9% | 23% | 50% | 50% | 0% | 0% | 28% | 72% | | | | | | |
| | PEAK HR FACTOR | | 0.375 | | | 0.688 | | | 0.500 | | | 0.643 | | 0.708 | | | | | |
| | APP/DEPART | 3 | / | 20 | 22 | / | 2 | 8 | / | 19 | 18 | / | 10 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 9 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 7 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 4 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 16 | 2 | 1 | 2 | 0 | 0 | 0 | 5 | 8 | 34 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 84% | 11% | 5% | 100% | 0% | 0% | 0% | 38% | 62% | | | | | | |
| | APP/DEPART | 0 | / | 10 | 19 | / | 2 | 2 | / | 16 | 13 | / | 6 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 13 | 2 | 1 | 1 | 0 | 0 | 0 | 2 | 6 | 25 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 81% | 13% | 6% | 100% | 0% | 0% | 0% | 25% | 75% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.800 | | | 0.250 | | | 0.500 | | 0.694 | | | | | |
| | APP/DEPART | 0 | / | 7 | 16 | / | 2 | 1 | / | 13 | 8 | / | 3 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

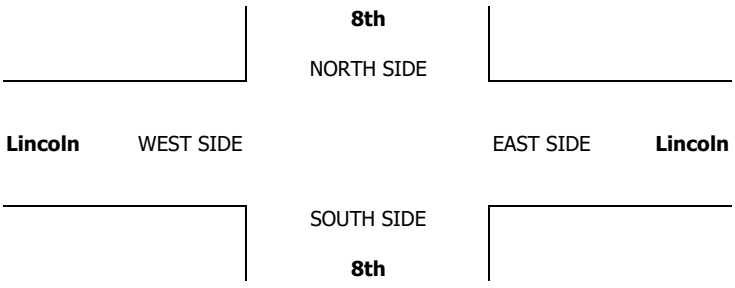
| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 3:** 3-AXLE TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 6 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 2 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 4 | 3 | 14 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 100% | 0% | 33% | 33% | 33% | 0% | 100% | 0% | 13% | 50% | 38% | | | | | | |
| | APP/DEPART | 2 | / | 5 | 3 | / | 2 | 1 | / | 2 | 8 | / | 5 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 5 | | | | | |
| | APPROACH % | 0% | 100% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 67% | 33% | | | | | | |
| | PEAK HR FACTOR | | 0.250 | | | 0.250 | | | 0.000 | | | 0.375 | | 0.625 | | | | | |
| | APP/DEPART | 1 | / | 2 | 1 | / | 0 | 0 | / | 1 | 3 | / | 2 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 5 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 9 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 83% | 17% | 0% | 100% | 0% | 0% | 0% | 50% | 50% | | | | | | |
| | APP/DEPART | 0 | / | 2 | 6 | / | 1 | 1 | / | 5 | 2 | / | 1 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 100% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.250 | | | 0.250 | | 0.500 | | | | | |
| | APP/DEPART | 0 | / | 2 | 0 | / | 0 | 1 | / | 0 | 1 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

**CLASS 4:** 4 OR MORE AXLE TRUCKS

**NOTES:**

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| 7:00 AM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 6 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| AM VOLUMES | 0 | 0 | 0 | 13 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 13 | 29 | 0 | 0 | 0 | 0 | 0 |
| AM APPROACH % | 0% | 0% | 0% | 87% | 0% | 13% | 100% | 0% | 0% | 0% | 0% | 100% | | | | | | |
| AM APP/DEPART | 0 | / | 14 | 15 | / | 0 | 1 | / | 13 | 13 | / | 2 | 0 | | | | | |
| AM BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| AM VOLUMES | 0 | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 11 | 16 | | | | | |
| AM APPROACH % | 0% | 0% | 0% | 75% | 0% | 25% | 100% | 0% | 0% | 0% | 0% | 100% | | | | | | |
| AM PEAK HR FACTOR | | 0.000 | | | 0.500 | | | 0.250 | | | 0.917 | | 0.667 | | | | | |
| AM APP/DEPART | 0 | / | 12 | 4 | / | 0 | 1 | / | 3 | 11 | / | 1 | 0 | | | | | |
| 4:00 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| PM VOLUMES | 0 | 0 | 0 | 11 | 0 | 2 | 1 | 0 | 0 | 1 | 2 | 2 | 19 | 0 | 0 | 0 | 0 | 0 |
| PM APPROACH % | 0% | 0% | 0% | 85% | 0% | 15% | 100% | 0% | 0% | 20% | 40% | 40% | | | | | | |
| PM APP/DEPART | 0 | / | 3 | 13 | / | 1 | 1 | / | 11 | 5 | / | 4 | 0 | | | | | |
| PM BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| PM VOLUMES | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 10 | | | | | |
| PM APPROACH % | 0% | 0% | 0% | 86% | 0% | 14% | 0% | 0% | 0% | 0% | 33% | 67% | | | | | | |
| PM PEAK HR FACTOR | | 0.000 | | | 0.583 | | | 0.000 | | | 0.750 | | 0.625 | | | | | |
| PM APP/DEPART | 0 | / | 2 | 7 | / | 0 | 0 | / | 6 | 3 | / | 2 | 0 | | | | | |

**8th**

NORTH SIDE

**Lincoln** WEST SIDE EAST SIDE **Lincoln**

SOUTH SIDE

**8th**

# INTERSECTION TURNING MOVEMENT COUNTS

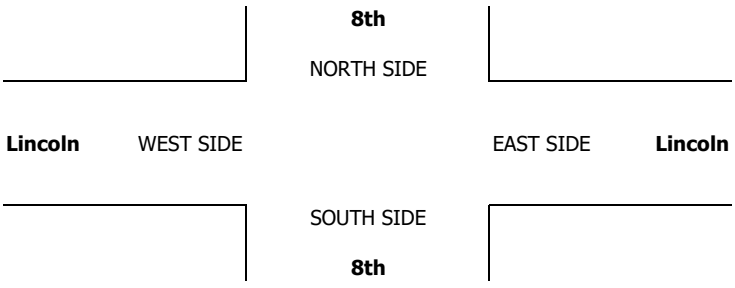
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| CLASS 5: | NOTES: |
|---|---|
| RV | |

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 | | | | | |
| | APP/DEPART | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | / | 0 | 0 | | | | | |



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| DATE: | LOCATION: | Banning | PROJECT #: | SC4158 |
|---|---|---|---|---|
| 8/15/23 | NORTH & SOUTH: | 8th | LOCATION #: | 2 |
| TUESDAY | EAST & WEST: | Lincoln | CONTROL: | STOP ALL |

| CLASS 6: | NOTES: | AM / PM / MD / OTHER / OTHER |
|---|---|---|
| BUSES | | ▲ N ◄ W E ► S ▼ |

| | | NORTHBOUND 8th | | | SOUTHBOUND 8th | | | EASTBOUND Lincoln | | | WESTBOUND Lincoln | | | | U-TURNS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANES: | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | TOTAL | NB | SB | EB | WB | TTL |
| AM | 7:00 AM | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 7:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 7:30 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 7:45 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 8:00 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 12 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 50% | 50% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | | | | | | |
| | APP/DEPART | 0 | / | 4 | 8 | / | 4 | 0 | / | 4 | 4 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 7:45 AM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 67% | 33% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.750 | | | 0.000 | | | 0.250 | | 0.500 | | | | | |
| | APP/DEPART | 0 | / | 1 | 3 | / | 1 | 0 | / | 2 | 1 | / | 0 | 0 | | | | | |
| PM | 4:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 4:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | 5:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | VOLUMES | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 0 | 0 | 0 |
| | APPROACH % | 0% | 0% | 0% | 83% | 17% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | | | | | | |
| | APP/DEPART | 0 | / | 1 | 6 | / | 1 | 1 | / | 6 | 1 | / | 0 | 0 | | | | | |
| | BEGIN PEAK HR | | 4:00 PM | | | | | | | | | | | | | | | | |
| | VOLUMES | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 6 | | | | | |
| | APPROACH % | 0% | 0% | 0% | 75% | 25% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | | | | | | |
| | PEAK HR FACTOR | | 0.000 | | | 0.500 | | | 0.250 | | | 0.250 | | 0.500 | | | | | |
| | APP/DEPART | 0 | / | 1 | 4 | / | 1 | 1 | / | 4 | 1 | / | 0 | 0 | | | | | |

**8th**

NORTH SIDE

**Lincoln** WEST SIDE EAST SIDE **Lincoln**

SOUTH SIDE

**8th**

# APPENDIX D

# LEVEL OF SERVICE WORKSHEETS

**EXISTING**

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro
Report File: G:\...\AME.pdf

Scenario 1 Existing AM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.124 | 8.0 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.008 | 9.8 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 0.978 | 33.6 | D |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.124 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Peak Hour Factor | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 14 | 2 | 12 | 12 | 3 | 5 | 9 | 2 | 2 | 15 | 10 |
| Total Analysis Volume [veh/h] | 14 | 57 | 9 | 46 | 49 | 11 | 20 | 37 | 10 | 7 | 59 | 40 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 696 | 743 | 665 | 746 | 811 | 854 |
| Degree of Utilization, x | 0.06 | 0.05 | 0.08 | 0.07 | 0.08 | 0.12 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.18 | 0.17 | 0.26 | 0.23 | 0.27 | 0.42 |
| 95th-Percentile Queue Length [ft] | 4.57 | 4.26 | 6.47 | 5.72 | 6.73 | 10.58 |
| Approach Delay [s/veh] | 8.00 | | 8.24 | | 7.84 | 7.81 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 7.99 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.008 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Peak Hour Factor | 0.8710 | 1.0000 | 0.8710 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.8710 | 0.8710 | 0.8710 | 0.8710 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 18 | 1 | 4 | 20 | 0 |
| Total Analysis Volume [veh/h] | 6 | 0 | 15 | 0 | 0 | 0 | 0 | 71 | 5 | 16 | 80 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.76 | 10.20 | 8.71 | 9.79 | 10.12 | 8.65 | 7.35 | 0.00 | 0.00 | 7.36 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.07 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 1.75 | 1.75 | 1.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.67 | 0.67 | 0.67 |
| d_A, Approach Delay [s/veh] | 9.01 | | | 9.52 | | | 0.00 | | | 1.23 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.59 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 33.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.978 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 62 | 1 | 59 | 68 | 12 | 13 | 13 | 1 | 0 | 16 | 73 |
| Total Analysis Volume [veh/h] | 4 | 248 | 4 | 235 | 274 | 48 | 52 | 53 | 3 | 1 | 65 | 293 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 489 | 520 | 603 | 433 | 481 | 532 |
| Degree of Utilization, x | 0.52 | 0.98 | 0.08 | 0.25 | 0.14 | 0.55 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 2.98 | 13.10 | 0.26 | 0.97 | 0.47 | 3.31 |
| 95th-Percentile Queue Length [ft] | 74.50 | 327.62 | 6.46 | 24.35 | 11.84 | 82.86 |
| Approach Delay [s/veh] | 18.11 | 55.57 | | 14.06 | 16.35 | |
| Approach LOS | C | F | | B | C | |
| Intersection Delay [s/veh] | 33.58 | | | | | |
| Intersection LOS | D | | | | | |

Brown Strauss Banning Industrial Project

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Report File: G:\...\PME.pdf

Scenario 1 Existing PM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.093 | 7.8 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.006 | 9.5 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.552 | 12.4 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 7.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.093 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Peak Hour Factor | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 13 | 2 | 11 | 8 | 3 | 5 | 11 | 2 | 2 | 11 | 7 |
| Total Analysis Volume [veh/h] | 5 | 52 | 8 | 44 | 33 | 12 | 20 | 45 | 7 | 7 | 45 | 29 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 719 | 756 | 666 | 763 | 827 | 867 |
| Degree of Utilization, x | 0.05 | 0.04 | 0.07 | 0.06 | 0.09 | 0.09 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.14 | 0.13 | 0.21 | 0.19 | 0.29 | 0.31 |
| 95th-Percentile Queue Length [ft] | 3.55 | 3.36 | 5.35 | 4.63 | 7.13 | 7.71 |
| Approach Delay [s/veh] | 7.81 | | 8.10 | | 7.77 | 7.58 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 7.82 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.006 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Peak Hour Factor | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 19 | 1 | 2 | 18 | 0 |
| Total Analysis Volume [veh/h] | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 77 | 3 | 7 | 71 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.53 | 9.98 | 8.68 | 9.51 | 9.95 | 8.61 | 7.33 | 0.00 | 0.00 | 7.36 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.03 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 95th-Percentile Queue Length [ft/ln] | 0.70 | 0.70 | 0.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.29 | 0.29 | 0.29 |
| d_A, Approach Delay [s/veh] | 9.21 | | | 9.36 | | | 0.00 | | | 0.66 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.75 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 12.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.552 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 22 | 0 | 59 | 24 | 9 | 11 | 10 | 1 | 1 | 9 | 54 |
| Total Analysis Volume [veh/h] | 2 | 88 | 0 | 237 | 97 | 37 | 43 | 42 | 4 | 5 | 37 | 215 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 593 | 605 | 736 | 569 | 594 | 680 |
| Degree of Utilization, x | 0.15 | 0.55 | 0.05 | 0.16 | 0.07 | 0.32 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.53 | 3.37 | 0.16 | 0.55 | 0.23 | 1.36 |
| 95th-Percentile Queue Length [ft] | 13.31 | 84.16 | 3.96 | 13.79 | 5.69 | 33.89 |
| Approach Delay [s/veh] | 10.16 | 14.96 | | 10.50 | 10.23 | |
| Approach LOS | B | B | | B | B | |
| Intersection Delay [s/veh] | 12.43 | | | | | |
| Intersection LOS | B | | | | | |

# OPENING YEAR CONDITIONS (2025)

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro
Report File: G:\...\AMOY.pdf

Scenario 2 Opening Year Conditions AM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.128 | 8.0 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.008 | 9.8 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 1.032 | 39.7 | E |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.128 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 48 | 7 | 38 | 41 | 9 | 17 | 31 | 8 | 6 | 49 | 33 |
| Peak Hour Factor | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 15 | 2 | 12 | 13 | 3 | 5 | 10 | 2 | 2 | 15 | 10 |
| Total Analysis Volume [veh/h] | 14 | 60 | 9 | 47 | 51 | 11 | 21 | 39 | 10 | 7 | 61 | 41 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 694 | 740 | 663 | 742 | 807 | 850 |
| Degree of Utilization, x | 0.06 | 0.06 | 0.08 | 0.07 | 0.09 | 0.13 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.19 | 0.18 | 0.27 | 0.24 | 0.28 | 0.44 |
| 95th-Percentile Queue Length [ft] | 4.76 | 4.45 | 6.69 | 5.93 | 7.10 | 10.98 |
| Approach Delay [s/veh] | 8.04 | | 8.27 | | 7.89 | 7.86 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.03 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.008 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 5 | 0 | 14 | 0 | 0 | 0 | 0 | 65 | 4 | 15 | 73 | 0 |
| Peak Hour Factor | 0.8710 | 1.0000 | 0.8710 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.8710 | 0.8710 | 0.8710 | 0.8710 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 19 | 1 | 4 | 21 | 0 |
| Total Analysis Volume [veh/h] | 6 | 0 | 16 | 0 | 0 | 0 | 0 | 75 | 5 | 17 | 84 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.84 | 10.27 | 8.74 | 9.88 | 10.19 | 8.67 | 7.36 | 0.00 | 0.00 | 7.37 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.07 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 1.85 | 1.85 | 1.85 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.71 |
| d_A, Approach Delay [s/veh] | 9.04 | | | 9.58 | | | 0.00 | | | 1.24 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.60 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 39.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.032 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 203 | 3 | 192 | 224 | 40 | 43 | 44 | 2 | 1 | 53 | 239 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 71 | 13 | 14 | 14 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 258 | 4 | 244 | 285 | 51 | 55 | 56 | 3 | 1 | 67 | 304 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 491 | 529 | 592 | 437 | 481 | 531 |
| Degree of Utilization, x | 0.54 | 1.03 | 0.09 | 0.26 | 0.14 | 0.57 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.19 | 15.16 | 0.28 | 1.03 | 0.49 | 3.57 |
| 95th-Percentile Queue Length [ft] | 79.70 | 379.03 | 7.04 | 25.84 | 12.22 | 89.14 |
| Approach Delay [s/veh] | 18.68 | 68.88 | | 14.13 | 16.92 | |
| Approach LOS | C | F | | B | C | |
| Intersection Delay [s/veh] | 39.66 | | | | | |
| Intersection LOS | E | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro
Report File: G:\...\PMOY.pdf

Scenario 2 Opening Year Conditions PM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.099 | 7.9 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.006 | 9.6 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.581 | 13.0 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 7.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.099 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 46 | 7 | 38 | 29 | 10 | 18 | 40 | 6 | 6 | 40 | 25 |
| Peak Hour Factor | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 14 | 2 | 11 | 9 | 3 | 5 | 12 | 2 | 2 | 12 | 7 |
| Total Analysis Volume [veh/h] | 5 | 55 | 8 | 45 | 34 | 12 | 21 | 48 | 7 | 7 | 48 | 30 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 716 | 752 | 663 | 759 | 823 | 862 |
| Degree of Utilization, x | 0.05 | 0.05 | 0.07 | 0.06 | 0.09 | 0.10 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.15 | 0.14 | 0.22 | 0.19 | 0.30 | 0.33 |
| 95th-Percentile Queue Length [ft] | 3.73 | 3.55 | 5.51 | 4.77 | 7.61 | 8.17 |
| Approach Delay [s/veh] | 7.85 | | 8.14 | | 7.82 | 7.63 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 7.87 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.006 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 71 | 3 | 6 | 66 | 0 |
| Peak Hour Factor | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 1 | 2 | 19 | 0 |
| Total Analysis Volume [veh/h] | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 80 | 3 | 7 | 74 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.57 | 10.01 | 8.70 | 9.55 | 9.98 | 8.62 | 7.34 | 0.00 | 0.00 | 7.37 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | A | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.03 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 95th-Percentile Queue Length [ft/ln] | 0.71 | 0.71 | 0.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.29 | 0.29 | 0.29 |
| d_A, Approach Delay [s/veh] | 9.24 | | | 9.39 | | | 0.00 | | | 0.64 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.73 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 13.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.581 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 83 | 0 | 225 | 93 | 35 | 41 | 40 | 4 | 5 | 35 | 204 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 25 | 10 | 11 | 11 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 91 | 0 | 246 | 102 | 38 | 45 | 44 | 4 | 5 | 38 | 223 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 585 | 599 | 728 | 561 | 587 | 670 |
| Degree of Utilization, x | 0.16 | 0.58 | 0.05 | 0.17 | 0.07 | 0.33 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.56 | 3.72 | 0.17 | 0.59 | 0.24 | 1.46 |
| 95th-Percentile Queue Length [ft] | 14.06 | 92.92 | 4.13 | 14.76 | 5.91 | 36.43 |
| Approach Delay [s/veh] | 10.32 | 15.83 | | 10.69 | 10.50 | |
| Approach LOS | B | C | | B | B | |
| Intersection Delay [s/veh] | 12.96 | | | | | |
| Intersection LOS | B | | | | | |

# OPENING YEAR CONDITIONS WITH PROJECT (2025)

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro

Scenario 4 Opening Year Conditions With Project AM Peak Hour

Report File: G:\...\AMOYP.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.145 | 8.2 | A |
| 2 | Project West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | EB Left | 0.009 | 7.4 | A |
| 3 | Project Central-West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.4 | A |
| 4 | Project Central-East Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.4 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.007 | 10.0 | B |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 1.041 | 40.4 | E |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.2 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.145 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 48 | 7 | 53 | 41 | 9 | 17 | 31 | 8 | 6 | 49 | 44 |
| Peak Hour Factor | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 15 | 2 | 17 | 13 | 3 | 5 | 10 | 2 | 2 | 15 | 14 |
| Total Analysis Volume [veh/h] | 14 | 60 | 9 | 66 | 51 | 11 | 21 | 39 | 10 | 7 | 61 | 55 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 687 | 731 | 650 | 734 | 794 | 848 |
| Degree of Utilization, x | 0.06 | 0.06 | 0.10 | 0.08 | 0.09 | 0.15 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.19 | 0.18 | 0.34 | 0.28 | 0.29 | 0.51 |
| 95th-Percentile Queue Length [ft] | 4.82 | 4.51 | 8.43 | 6.90 | 7.22 | 12.65 |
| Approach Delay [s/veh] | 8.10 | | 8.47 | | 7.97 | 7.96 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.15 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Project West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 7.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.009 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 13 | 2 | 11 | 9 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 13 | 71 | 89 | 9 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 3 | 19 | 23 | 2 |
| Total Analysis Volume [veh/h] | 0 | 0 | 14 | 75 | 94 | 9 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.59 | 8.74 | 7.41 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.59 | 0.59 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.17 | | 1.17 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.54 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 3: Project Central-West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 3 | 2 | 0 | 17 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 3 | 2 | 69 | 95 | 1 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 1 | 1 | 18 | 25 | 0 |
| Total Analysis Volume [veh/h] | 1 | 3 | 2 | 73 | 100 | 1 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.43 | 8.77 | 7.40 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.33 | 0.33 | 0.08 | 0.08 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 8.93 | | 0.20 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.28 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Project Central-East Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 1 | 0 | 1 | 17 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 1 | 0 | 70 | 95 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 0 | 18 | 25 | 0 |
| Total Analysis Volume [veh/h] | 1 | 1 | 0 | 74 | 100 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.40 | 8.76 | 7.39 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.17 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.08 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.10 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 10.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.007 |

**Intersection Setup**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 5 | 0 | 7 | 0 | 2 | 0 | 0 | 10 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 5 | 0 | 14 | 5 | 0 | 7 | 0 | 67 | 4 | 15 | 83 | 0 |
| Peak Hour Factor | 0.8710 | 1.0000 | 0.8710 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.8710 | 0.8710 | 0.8710 | 0.8710 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 4 | 1 | 0 | 2 | 0 | 19 | 1 | 4 | 24 | 0 |
| Total Analysis Volume [veh/h] | 6 | 0 | 16 | 5 | 0 | 7 | 0 | 77 | 5 | 17 | 95 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 10.00 | 10.36 | 8.75 | 10.04 | 10.34 | 8.78 | 7.38 | 0.00 | 0.00 | 7.37 | 0.00 | 0.00 |
| Movement LOS | A | B | A | B | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.07 | 0.07 | 0.07 | 0.04 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 1.87 | 1.87 | 1.87 | 1.08 | 1.08 | 1.08 | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.71 |
| d_A, Approach Delay [s/veh] | 9.09 | | | 9.31 | | | 0.00 | | | 1.12 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.92 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 40.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.041 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 10 | 7 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 203 | 3 | 192 | 224 | 50 | 50 | 44 | 2 | 1 | 53 | 239 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 71 | 16 | 16 | 14 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 258 | 4 | 244 | 285 | 64 | 64 | 56 | 3 | 1 | 67 | 304 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 487 | 529 | 587 | 436 | 478 | 528 |
| Degree of Utilization, x | 0.55 | 1.04 | 0.11 | 0.28 | 0.14 | 0.58 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.24 | 15.44 | 0.37 | 1.15 | 0.49 | 3.62 |
| 95th-Percentile Queue Length [ft] | 80.92 | 386.09 | 9.13 | 28.70 | 12.32 | 90.41 |
| Approach Delay [s/veh] | 18.96 | 70.01 | | 14.50 | 17.14 | |
| Approach LOS | C | F | | B | C | |
| Intersection Delay [s/veh] | 40.41 | | | | | |
| Intersection LOS | E | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro

Scenario 4 Opening Year Conditions With Project PM Peak Hour

Report File: G:\...\PMOYP.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.105 | 7.9 | A |
| 2 | Project West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | EB Left | 0.003 | 7.4 | A |
| 3 | Project Central-West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.3 | A |
| 4 | Project Central-East Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | WB Thru | 0.001 | 0.0 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.006 | 9.6 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.582 | 13.0 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 7.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.105 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 46 | 7 | 43 | 29 | 10 | 18 | 40 | 6 | 6 | 40 | 30 |
| Peak Hour Factor | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 14 | 2 | 13 | 9 | 3 | 5 | 12 | 2 | 2 | 12 | 9 |
| Total Analysis Volume [veh/h] | 5 | 55 | 8 | 51 | 34 | 12 | 21 | 48 | 7 | 7 | 48 | 36 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 713 | 749 | 661 | 756 | 819 | 865 |
| Degree of Utilization, x | 0.05 | 0.05 | 0.08 | 0.06 | 0.09 | 0.11 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.15 | 0.14 | 0.25 | 0.19 | 0.31 | 0.35 |
| 95th-Percentile Queue Length [ft] | 3.75 | 3.56 | 6.25 | 4.85 | 7.65 | 8.79 |
| Approach Delay [s/veh] | 7.87 | | 8.21 | | 7.85 | 7.65 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 7.90 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Project West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 7.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.003 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 5 | 0 | 5 | 4 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 5 | 74 | 75 | 4 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 1 | 19 | 20 | 1 |
| Total Analysis Volume [veh/h] | 0 | 0 | 5 | 78 | 79 | 4 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.37 | 8.66 | 7.36 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.21 | 0.21 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.02 | | 0.44 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.22 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 3: Project Central-West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 3 | 0 | 0 | 6 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 3 | 0 | 74 | 76 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 1 | 0 | 19 | 20 | 0 |
| Total Analysis Volume [veh/h] | 1 | 3 | 0 | 78 | 80 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.31 | 8.67 | 7.35 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.32 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 8.83 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.22 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 4: Project Central-East Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 0.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 1 | 6 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 0 | 75 | 76 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 0 | 20 | 20 | 0 |
| Total Analysis Volume [veh/h] | 0 | 0 | 0 | 79 | 80 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.30 | 8.65 | 7.35 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 8.98 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.00 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.006 |

**Intersection Setup**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 4 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 0 | 3 | 1 | 0 | 2 | 0 | 72 | 3 | 6 | 70 | 0 |
| Peak Hour Factor | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 20 | 1 | 2 | 20 | 0 |
| Total Analysis Volume [veh/h] | 5 | 0 | 3 | 1 | 0 | 2 | 0 | 81 | 3 | 7 | 79 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.63 | 10.05 | 8.70 | 9.61 | 10.04 | 8.66 | 7.35 | 0.00 | 0.00 | 7.37 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.03 | 0.03 | 0.03 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 95th-Percentile Queue Length [ft/ln] | 0.71 | 0.71 | 0.71 | 0.25 | 0.25 | 0.25 | 0.00 | 0.00 | 0.00 | 0.29 | 0.29 | 0.29 |
| d_A, Approach Delay [s/veh] | 9.28 | | | 8.98 | | | 0.00 | | | 0.60 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.84 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 13.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.582 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 83 | 0 | 225 | 93 | 39 | 43 | 40 | 4 | 5 | 35 | 204 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 25 | 11 | 12 | 11 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 91 | 0 | 246 | 102 | 43 | 47 | 44 | 4 | 5 | 38 | 223 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 584 | 599 | 726 | 560 | 586 | 669 |
| Degree of Utilization, x | 0.16 | 0.58 | 0.06 | 0.17 | 0.07 | 0.33 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.56 | 3.73 | 0.19 | 0.61 | 0.24 | 1.46 |
| 95th-Percentile Queue Length [ft] | 14.10 | 93.19 | 4.71 | 15.17 | 5.92 | 36.57 |
| Approach Delay [s/veh] | 10.34 | 15.78 | | 10.74 | 10.53 | |
| Approach LOS | B | C | | B | B | |
| Intersection Delay [s/veh] | 12.96 | | | | | |
| Intersection LOS | B | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro

Scenario 5 Opening Year Conditions With Project AM Peak Hour - With Improvements

Report File: G:\...\AMOYPI.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 0.643 | 17.6 | C |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 17.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.643 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 10 | 7 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 203 | 3 | 192 | 224 | 50 | 50 | 44 | 2 | 1 | 53 | 239 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 71 | 16 | 16 | 14 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 258 | 4 | 244 | 285 | 64 | 64 | 56 | 3 | 1 | 67 | 304 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 501 | 495 | 543 | 451 | 490 | 543 |
| Degree of Utilization, x | 0.53 | 0.49 | 0.64 | 0.27 | 0.14 | 0.56 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.07 | 2.68 | 4.55 | 1.10 | 0.48 | 3.42 |
| 95th-Percentile Queue Length [ft] | 76.65 | 67.10 | 113.63 | 27.39 | 11.98 | 85.52 |
| Approach Delay [s/veh] | 17.98 | 18.98 | | 13.95 | 16.29 | |
| Approach LOS | C | C | | B | C | |
| Intersection Delay [s/veh] | 17.59 | | | | | |
| Intersection LOS | C | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro

Scenario 5 Opening Year Conditions With Project PM Peak Hour - With Improvements

Report File: G:\...\PMOYPI.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.420 | 11.1 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 11.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.420 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 83 | 0 | 225 | 93 | 39 | 43 | 40 | 4 | 5 | 35 | 204 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 25 | 11 | 12 | 11 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 91 | 0 | 246 | 102 | 43 | 47 | 44 | 4 | 5 | 38 | 223 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 591 | 586 | 662 | 572 | 594 | 680 |
| Degree of Utilization, x | 0.16 | 0.42 | 0.22 | 0.17 | 0.07 | 0.33 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.55 | 2.07 | 0.83 | 0.59 | 0.23 | 1.43 |
| 95th-Percentile Queue Length [ft] | 13.87 | 51.79 | 20.76 | 14.81 | 5.84 | 35.77 |
| Approach Delay [s/veh] | 10.22 | 11.90 | | 10.55 | 10.35 | |
| Approach LOS | B | B | | B | B | |
| Intersection Delay [s/veh] | 11.08 | | | | | |
| Intersection LOS | B | | | | | |

# CUMULATIVE CONDITIONS (2025)

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro
Report File: G:\...\AMCUM.pdf

Scenario 6 Cumulative Conditions AM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.144 | 8.3 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.008 | 10.1 | B |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 1.052 | 41.5 | E |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.144 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 26 | 1 | 1 | 1 | 5 | 0 | 0 | 1 | 8 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 49 | 7 | 64 | 42 | 10 | 18 | 36 | 8 | 6 | 50 | 41 |
| Peak Hour Factor | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 15 | 2 | 20 | 13 | 3 | 6 | 11 | 2 | 2 | 16 | 13 |
| Total Analysis Volume [veh/h] | 14 | 61 | 9 | 80 | 52 | 12 | 22 | 45 | 10 | 7 | 62 | 51 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 682 | 726 | 649 | 732 | 786 | 835 |
| Degree of Utilization, x | 0.06 | 0.06 | 0.12 | 0.09 | 0.10 | 0.14 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.20 | 0.18 | 0.42 | 0.29 | 0.32 | 0.50 |
| 95th-Percentile Queue Length [ft] | 4.91 | 4.60 | 10.49 | 7.16 | 8.11 | 12.52 |
| Approach Delay [s/veh] | 8.15 | | 8.61 | | 8.08 | 8.03 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.26 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 10.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.008 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 21 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 5 | 0 | 14 | 0 | 0 | 0 | 0 | 74 | 4 | 15 | 94 | 0 |
| Peak Hour Factor | 0.8710 | 1.0000 | 0.8710 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.8710 | 0.8710 | 0.8710 | 0.8710 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 21 | 1 | 4 | 27 | 0 |
| Total Analysis Volume [veh/h] | 6 | 0 | 16 | 0 | 0 | 0 | 0 | 85 | 5 | 17 | 108 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 10.09 | 10.51 | 8.79 | 10.14 | 10.43 | 8.78 | 7.41 | 0.00 | 0.00 | 7.39 | 0.00 | 0.00 |
| Movement LOS | B | B | A | B | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.08 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 1.90 | 1.90 | 1.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.71 |
| d_A, Approach Delay [s/veh] | 9.15 | | | 9.78 | | | 0.00 | | | 1.01 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.38 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 41.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.052 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 19 | 6 | 3 | 0 | 0 | 2 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 204 | 3 | 193 | 225 | 59 | 49 | 47 | 2 | 1 | 55 | 240 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 72 | 19 | 16 | 15 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 260 | 4 | 246 | 286 | 75 | 62 | 60 | 3 | 1 | 70 | 305 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 485 | 532 | 583 | 435 | 476 | 525 |
| Degree of Utilization, x | 0.55 | 1.05 | 0.13 | 0.29 | 0.15 | 0.58 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.31 | 15.86 | 0.44 | 1.18 | 0.52 | 3.67 |
| 95th-Percentile Queue Length [ft] | 82.64 | 396.61 | 10.99 | 29.43 | 13.00 | 91.64 |
| Approach Delay [s/veh] | 19.22 | 71.98 | | 14.61 | 17.28 | |
| Approach LOS | C | F | | B | C | |
| Intersection Delay [s/veh] | 41.55 | | | | | |
| Intersection LOS | E | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro
Report File: G:\...\PMCUM.pdf

Scenario 6 Cumulative Conditions PM Peak Hour
10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.137 | 8.0 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.007 | 9.8 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.597 | 13.3 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.137 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 11 | 1 | 1 | 1 | 2 | 0 | 0 | 5 | 25 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 47 | 7 | 49 | 30 | 11 | 19 | 42 | 6 | 6 | 45 | 50 |
| Peak Hour Factor | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 14 | 2 | 15 | 9 | 3 | 6 | 12 | 2 | 2 | 13 | 15 |
| Total Analysis Volume [veh/h] | 5 | 56 | 8 | 58 | 36 | 13 | 23 | 50 | 7 | 7 | 53 | 59 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 701 | 735 | 652 | 745 | 806 | 870 |
| Degree of Utilization, x | 0.05 | 0.05 | 0.09 | 0.07 | 0.10 | 0.14 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.15 | 0.15 | 0.29 | 0.21 | 0.33 | 0.47 |
| 95th-Percentile Queue Length [ft] | 3.87 | 3.69 | 7.30 | 5.27 | 8.23 | 11.83 |
| Approach Delay [s/veh] | 7.97 | | 8.36 | | 7.96 | 7.80 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.02 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.007 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 11 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 92 | 3 | 6 | 77 | 0 |
| Peak Hour Factor | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 26 | 1 | 2 | 22 | 0 |
| Total Analysis Volume [veh/h] | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 104 | 3 | 7 | 87 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.83 | 10.26 | 8.82 | 9.81 | 10.22 | 8.68 | 7.37 | 0.00 | 0.00 | 7.41 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.03 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 95th-Percentile Queue Length [ft/ln] | 0.74 | 0.74 | 0.74 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.29 | 0.29 | 0.29 |
| d_A, Approach Delay [s/veh] | 9.45 | | | 9.57 | | | 0.00 | | | 0.55 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.61 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 13.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.597 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 8 | 19 | 2 | 0 | 0 | 3 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 84 | 0 | 226 | 94 | 43 | 60 | 42 | 4 | 5 | 38 | 205 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 26 | 12 | 16 | 12 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 92 | 0 | 248 | 103 | 47 | 66 | 46 | 4 | 5 | 42 | 225 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 571 | 589 | 712 | 553 | 578 | 658 |
| Degree of Utilization, x | 0.16 | 0.60 | 0.07 | 0.21 | 0.08 | 0.34 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.59 | 3.92 | 0.21 | 0.78 | 0.26 | 1.52 |
| 95th-Percentile Queue Length [ft] | 14.63 | 97.96 | 5.29 | 19.62 | 6.61 | 37.91 |
| Approach Delay [s/veh] | 10.54 | 16.35 | | 11.23 | 10.73 | |
| Approach LOS | B | C | | B | B | |
| Intersection Delay [s/veh] | 13.32 | | | | | |
| Intersection LOS | B | | | | | |

# CUMULATIVE CONDITIONS WITH PROJECT (2025)

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro

Scenario 8 Cumulative Conditions With Project AM Peak Hour

Report File: G:\...\AMCUMW.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.161 | 8.4 | A |
| 2 | Project West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | EB Left | 0.009 | 7.5 | A |
| 3 | Project Central-West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.6 | A |
| 4 | Project Central-East Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.6 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.007 | 10.3 | B |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 1.061 | 42.3 | E |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.161 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 46 | 7 | 37 | 39 | 9 | 16 | 30 | 8 | 6 | 47 | 32 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 41 | 1 | 1 | 1 | 5 | 0 | 0 | 1 | 19 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 49 | 7 | 79 | 42 | 10 | 18 | 36 | 8 | 6 | 50 | 52 |
| Peak Hour Factor | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 | 0.8020 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 15 | 2 | 25 | 13 | 3 | 6 | 11 | 2 | 2 | 16 | 16 |
| Total Analysis Volume [veh/h] | 14 | 61 | 9 | 99 | 52 | 12 | 22 | 45 | 10 | 7 | 62 | 65 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 674 | 717 | 644 | 726 | 775 | 832 |
| Degree of Utilization, x | 0.06 | 0.06 | 0.15 | 0.09 | 0.10 | 0.16 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.20 | 0.19 | 0.54 | 0.29 | 0.33 | 0.57 |
| 95th-Percentile Queue Length [ft] | 4.97 | 4.66 | 13.51 | 7.22 | 8.25 | 14.31 |
| Approach Delay [s/veh] | 8.21 | | 8.84 | | 8.16 | 8.16 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.41 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Project West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 7.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.009 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 13 | 11 | 32 | 9 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 13 | 80 | 110 | 9 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 3 | 21 | 29 | 2 |
| Total Analysis Volume [veh/h] | 0 | 0 | 14 | 84 | 116 | 9 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.78 | 8.84 | 7.46 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.59 | 0.59 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.31 | | 1.07 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.47 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 3: Project Central-West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 3 | 2 | 9 | 38 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 3 | 2 | 78 | 116 | 1 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 1 | 1 | 21 | 31 | 0 |
| Total Analysis Volume [veh/h] | 1 | 3 | 2 | 82 | 122 | 1 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.61 | 8.87 | 7.44 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.34 | 0.34 | 0.08 | 0.08 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.06 | | 0.18 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.24 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 4: Project Central-East Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 66 | 75 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 1 | 0 | 10 | 38 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 1 | 0 | 79 | 116 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 0 | 21 | 31 | 0 |
| Total Analysis Volume [veh/h] | 1 | 1 | 0 | 83 | 122 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.58 | 8.86 | 7.44 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.18 | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.22 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.09 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 10.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.007 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 5 | 0 | 13 | 0 | 0 | 0 | 0 | 62 | 4 | 14 | 70 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 5 | 0 | 7 | 0 | 11 | 0 | 0 | 31 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 5 | 0 | 14 | 5 | 0 | 7 | 0 | 76 | 4 | 15 | 104 | 0 |
| Peak Hour Factor | 0.8710 | 1.0000 | 0.8710 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.8710 | 0.8710 | 0.8710 | 0.8710 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 4 | 1 | 0 | 2 | 0 | 22 | 1 | 4 | 30 | 0 |
| Total Analysis Volume [veh/h] | 6 | 0 | 16 | 5 | 0 | 7 | 0 | 87 | 5 | 17 | 119 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 10.26 | 10.60 | 8.80 | 10.31 | 10.58 | 8.90 | 7.43 | 0.00 | 0.00 | 7.39 | 0.00 | 0.00 |
| Movement LOS | B | B | A | B | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.08 | 0.08 | 0.08 | 0.04 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 |
| 95th-Percentile Queue Length [ft/ln] | 1.92 | 1.92 | 1.92 | 1.12 | 1.12 | 1.12 | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.71 |
| d_A, Approach Delay [s/veh] | 9.20 | | | 9.49 | | | 0.00 | | | 0.92 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.69 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 42.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.061 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 29 | 13 | 3 | 0 | 0 | 2 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 204 | 3 | 193 | 225 | 69 | 56 | 47 | 2 | 1 | 55 | 240 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 72 | 22 | 18 | 15 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 260 | 4 | 246 | 286 | 88 | 71 | 60 | 3 | 1 | 70 | 305 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 481 | 532 | 578 | 433 | 473 | 522 |
| Degree of Utilization, x | 0.56 | 1.06 | 0.15 | 0.31 | 0.15 | 0.58 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.36 | 16.15 | 0.53 | 1.30 | 0.52 | 3.72 |
| 95th-Percentile Queue Length [ft] | 83.92 | 403.86 | 13.35 | 32.50 | 13.10 | 92.94 |
| Approach Delay [s/veh] | 19.52 | 73.19 | | 15.00 | 17.51 | |
| Approach LOS | C | F | | C | C | |
| Intersection Delay [s/veh] | 42.35 | | | | | |
| Intersection LOS | E | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro

Scenario 8 Cumulative Conditions With Project PM Peak Hour

Report File: G:\...\PMCUMW.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | 22nd St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.144 | 8.1 | A |
| 2 | Project West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | EB Left | 0.003 | 7.4 | A |
| 3 | Project Central-West Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | SB Left | 0.001 | 9.5 | A |
| 4 | Project Central-East Dwy (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | EB Thru | 0.001 | 0.0 | A |
| 5 | Project East Dwy/12th St (NS) at Lincoln St (EW) | Two-way stop | HCM 7th Edition | NB Left | 0.007 | 9.9 | A |
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.597 | 13.3 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 1: 22nd St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.144 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | Yes | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 44 | 7 | 37 | 28 | 10 | 17 | 38 | 6 | 6 | 38 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 16 | 1 | 1 | 1 | 2 | 0 | 0 | 5 | 30 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 47 | 7 | 54 | 30 | 11 | 19 | 42 | 6 | 6 | 45 | 55 |
| Peak Hour Factor | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 | 0.8420 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 14 | 2 | 16 | 9 | 3 | 6 | 12 | 2 | 2 | 13 | 16 |
| Total Analysis Volume [veh/h] | 5 | 56 | 8 | 64 | 36 | 13 | 23 | 50 | 7 | 7 | 53 | 65 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 698 | 732 | 649 | 742 | 802 | 869 |
| Degree of Utilization, x | 0.05 | 0.05 | 0.10 | 0.07 | 0.10 | 0.14 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.16 | 0.15 | 0.33 | 0.21 | 0.33 | 0.50 |
| 95th-Percentile Queue Length [ft] | 3.89 | 3.71 | 8.16 | 5.29 | 8.28 | 12.53 |
| Approach Delay [s/veh] | 7.99 | | 8.43 | | 7.99 | 7.84 |
| Approach LOS | A | | A | | A | A |
| Intersection Delay [s/veh] | 8.07 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**
**Intersection 2: Project West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 7.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.003 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 5 | 21 | 16 | 4 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 5 | 95 | 86 | 4 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 1 | 25 | 23 | 1 |
| Total Analysis Volume [veh/h] | 0 | 0 | 5 | 100 | 91 | 4 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.57 | 8.71 | 7.39 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.21 | 0.21 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.14 | | 0.35 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.18 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 3: Project Central-West Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 3 | 0 | 21 | 17 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 3 | 0 | 95 | 87 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 1 | 0 | 25 | 23 | 0 |
| Total Analysis Volume [veh/h] | 1 | 3 | 0 | 100 | 92 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.51 | 8.73 | 7.38 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.33 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 8.92 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.18 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 4: Project Central-East Dwy (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 0.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.001 |

**Intersection Setup**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | 30.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | | | | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 71 | 67 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 22 | 17 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 0 | 96 | 87 | 0 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 0 | 25 | 23 | 0 |
| Total Analysis Volume [veh/h] | 0 | 0 | 0 | 101 | 92 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 9.50 | 8.71 | 7.38 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.10 | | 0.00 | | 0.00 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.00 | | | | | |
| Intersection LOS | A | | | | | |

**Intersection Level Of Service Report**

**Intersection 5: Project East Dwy/12th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.007 |

**Intersection Setup**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 68 | 3 | 6 | 63 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 22 | 0 | 0 | 15 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 0 | 3 | 1 | 0 | 2 | 0 | 93 | 3 | 6 | 81 | 0 |
| Peak Hour Factor | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 | 0.8860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 26 | 1 | 2 | 23 | 0 |
| Total Analysis Volume [veh/h] | 5 | 0 | 3 | 1 | 0 | 2 | 0 | 105 | 3 | 7 | 91 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | No | No | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.89 | 10.29 | 8.82 | 9.86 | 10.27 | 8.72 | 7.37 | 0.00 | 0.00 | 7.42 | 0.00 | 0.00 |
| Movement LOS | A | B | A | A | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.03 | 0.03 | 0.03 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 95th-Percentile Queue Length [ft/ln] | 0.75 | 0.75 | 0.75 | 0.26 | 0.26 | 0.26 | 0.00 | 0.00 | 0.00 | 0.29 | 0.29 | 0.29 |
| d_A, Approach Delay [s/veh] | 9.49 | | | 9.10 | | | 0.00 | | | 0.53 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.71 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 13.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.597 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 12 | 21 | 2 | 0 | 0 | 3 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 84 | 0 | 226 | 94 | 47 | 62 | 42 | 4 | 5 | 38 | 205 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 26 | 13 | 17 | 12 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 92 | 0 | 248 | 103 | 51 | 68 | 46 | 4 | 5 | 42 | 225 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 570 | 588 | 710 | 552 | 577 | 657 |
| Degree of Utilization, x | 0.16 | 0.60 | 0.07 | 0.21 | 0.08 | 0.34 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.59 | 3.93 | 0.23 | 0.80 | 0.27 | 1.52 |
| 95th-Percentile Queue Length [ft] | 14.66 | 98.24 | 5.78 | 20.08 | 6.63 | 38.04 |
| Approach Delay [s/veh] | 10.56 | 16.32 | | 11.28 | 10.75 | |
| Approach LOS | B | C | | B | B | |
| Intersection Delay [s/veh] | 13.33 | | | | | |
| Intersection LOS | B | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\AME.vistro

Scenario 9 Cumulative Conditions With Project AM Peak Hour - With Improvements

Report File: G:\...\AMCUMWI.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Thru | 0.696 | 18.8 | C |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 18.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.696 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 195 | 3 | 185 | 215 | 38 | 41 | 42 | 2 | 1 | 51 | 230 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 29 | 13 | 3 | 0 | 0 | 2 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 204 | 3 | 193 | 225 | 69 | 56 | 47 | 2 | 1 | 55 | 240 |
| Peak Hour Factor | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 | 0.7860 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 65 | 1 | 61 | 72 | 22 | 18 | 15 | 1 | 0 | 17 | 76 |
| Total Analysis Volume [veh/h] | 4 | 260 | 4 | 246 | 286 | 88 | 71 | 60 | 3 | 1 | 70 | 305 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 491 | 488 | 537 | 444 | 481 | 533 |
| Degree of Utilization, x | 0.54 | 0.50 | 0.70 | 0.30 | 0.15 | 0.57 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 3.22 | 2.79 | 5.43 | 1.26 | 0.51 | 3.57 |
| 95th-Percentile Queue Length [ft] | 80.49 | 69.79 | 135.69 | 31.40 | 12.85 | 89.28 |
| Approach Delay [s/veh] | 18.73 | 20.95 | | 14.57 | 16.87 | |
| Approach LOS | C | C | | B | C | |
| Intersection Delay [s/veh] | 18.82 | | | | | |
| Intersection LOS | C | | | | | |

Brown Strauss Banning Industrial Project

Vistro File: G:\...\PME.vistro

Scenario 9 Cumulative Conditions With Project PM Peak Hour - With Improvements

Report File: G:\...\PMCUMWI.pdf

10/13/2023

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 6 | 8th St (NS) at Lincoln St (EW) | All-way stop | HCM 7th Edition | SB Left | 0.431 | 11.4 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**Intersection 6: 8th St (NS) at Lincoln St (EW)**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 11.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.431 |

**Intersection Setup**

| Name | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 30.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | No | | | No | | |

**Volumes**

| Name | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 80 | 0 | 216 | 89 | 34 | 39 | 38 | 4 | 5 | 34 | 196 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Factor | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 | 1.0404 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 1 | 1 | 12 | 21 | 2 | 0 | 0 | 3 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 84 | 0 | 226 | 94 | 47 | 62 | 42 | 4 | 5 | 38 | 205 |
| Peak Hour Factor | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 | 0.9130 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 23 | 0 | 62 | 26 | 13 | 17 | 12 | 1 | 1 | 10 | 56 |
| Total Analysis Volume [veh/h] | 2 | 92 | 0 | 248 | 103 | 51 | 68 | 46 | 4 | 5 | 42 | 225 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Capacity per Entry Lane [veh/h] | 578 | 575 | 652 | 564 | 585 | 668 |
| Degree of Utilization, x | 0.16 | 0.43 | 0.24 | 0.21 | 0.08 | 0.34 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.58 | 2.16 | 0.91 | 0.78 | 0.26 | 1.49 |
| 95th-Percentile Queue Length [ft] | 14.42 | 53.94 | 22.84 | 19.57 | 6.53 | 37.14 |
| Approach Delay [s/veh] | 10.43 | 12.19 | | 11.07 | 10.57 | |
| Approach LOS | B | B | | B | B | |
| Intersection Delay [s/veh] | 11.36 | | | | | |
| Intersection LOS | B | | | | | |

# APPENDIX E

# EXISTING FACILITY TRIP GENERATION WORKSHEETS

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 7:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 37 | 6 | 1 | 21 | 0 | 0 | 65 | TOTAL | 18 | 1 | 0 | 11 | 0 | 0 | 30 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 27 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 8 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 55 | 7 | 1 | 32 | 0 | 0 | 95 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 57.9% | 7.4% | 1.1% | 33.7% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 111 | 16 | 2 | 65 | 0 | 0 | 194 |
| CLASS 6 | Buses | % OF TOTAL | 57.2% | 8.2% | 1.0% | 33.5% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:15 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 13:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 15 | 0 | 0 | 1 | 0 | 0 | 16 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 1 | 4 | 0 | 0 | 5 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 20:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 21:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 25 | 5 | 1 | 21 | 0 | 0 | 52 | TOTAL | 31 | 4 | 0 | 12 | 0 | 0 | 47 |
| | | | | AM PEAK HOUR | | | 1:15 AM | | | | | AM PEAK HOUR | | | 2:00 PM |
| | | | | AM PEAK VOLUME | | | 10 | | | | | AM PEAK VOLUME | | | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 56 | 9 | 1 | 33 | 0 | 0 | 99 |
| % OF TOTAL | 56.6% | 9.1% | 1.0% | 33.3% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | BUS |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | | PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 2 | 0 | 0 | 4 |
| 1:15 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:15 | 1 | 0 | 0 | 4 | 0 | 0 | 5 |
| 1:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 13:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:45 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:45 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 17 | 0 | 0 | 1 | 0 | 0 | 18 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 4 | 0 | 0 | 1 | 0 | 0 | 5 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 4 | 1 | 0 | 0 | 0 | 0 | 5 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 | 7 | 0 | 0 | 2 | 0 | 0 | 9 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 1 | 0 | 0 | 5 | 0 | 0 | 6 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 1 | 6 | 0 | 0 | 7 | 17:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 5:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 17:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 1 | 0 | 0 | 3 | 0 | 0 | 4 | 18:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 6:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 7:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 20:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 2 | 0 | 3 | 0 | 0 | 6 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:15 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 21:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 9:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 2 | 0 | 1 | 0 | 0 | 5 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 62 | 11 | 2 | 42 | 0 | 0 | 117 | TOTAL | 49 | 5 | 0 | 23 | 0 | 0 | 77 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 29 |

| | |
|---|---|
| AM PEAK HOUR | 2:00 PM |
| AM PEAK VOLUME | 27 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 111 | 16 | 2 | 65 | 0 | 0 | 194 |
| % OF TOTAL | 57.2% | 8.2% | 1.0% | 33.5% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 16:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:45 | 5 | 0 | 0 | 2 | 0 | 0 | 7 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:45 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 0 | 0 | 2 | 0 | 0 | 4 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 3 | 0 | 1 | 0 | 0 | 5 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 31 | 8 | 2 | 29 | 0 | 0 | 70 | TOTAL | 14 | 2 | 0 | 12 | 0 | 0 | 28 |
| | | | | AM PEAK HOUR | | | 4:15 AM | | | | | AM PEAK HOUR | | | 2:00 PM |
| | | | | AM PEAK VOLUME | | | 25 | | | | | AM PEAK VOLUME | | | 11 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 45 | 10 | 2 | 41 | 0 | 0 | 98 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 45.9% | 10.2% | 2.0% | 41.8% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 89 | 24 | 3 | 82 | 0 | 0 | 198 |
| CLASS 6 | Buses | % OF TOTAL | 44.9% | 12.1% | 1.5% | 41.4% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | OUT | | | | | | | PM | OUT | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 0:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 5:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 1 | 2 | 0 | 2 | 0 | 0 | 5 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 23:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11:45 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 23:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 13 | 9 | 1 | 26 | 0 | 0 | 49 | TOTAL | 31 | 5 | 0 | 15 | 0 | 0 | 51 |
| | | | | AM PEAK HOUR | | | 9:30 AM | | | | | AM PEAK HOUR | | | 1:15 PM |
| | | | | AM PEAK VOLUME | | | 11 | | | | | AM PEAK VOLUME | | | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 44 | 14 | 1 | 41 | 0 | 0 | 100 |
| % OF TOTAL | 44.0% | 14.0% | 1.0% | 41.0% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | BUS |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | | PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 0:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:15 | 0 | 0 | 0 | 5 | 0 | 0 | 5 |
| 0:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 1 | 0 | 2 | 0 | 0 | 3 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 10 | 0 | 0 | 1 | 0 | 0 | 11 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 7 | 0 | 0 | 2 | 0 | 0 | 9 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 2 | 0 | 0 | 0 | 0 | 4 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 16:30 | 3 | 0 | 0 | 1 | 0 | 0 | 4 |
| 4:45 | 5 | 0 | 0 | 2 | 0 | 0 | 7 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 5 | 0 | 0 | 6 | 17:15 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 5:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 6:45 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 2 | 0 | 3 | 0 | 0 | 5 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 1 | 1 | 0 | 2 | 0 | 0 | 4 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 2 | 1 | 1 | 2 | 0 | 0 | 6 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 1 | 1 | 0 | 3 | 0 | 0 | 5 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 1 | 0 | 3 | 0 | 0 | 6 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 3 | 0 | 2 | 0 | 0 | 7 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 4 | 0 | 0 | 6 | 23:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11:45 | 1 | 5 | 0 | 1 | 0 | 0 | 7 | 23:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOTAL | 44 | 17 | 3 | 55 | 0 | 0 | 119 | TOTAL | 45 | 7 | 0 | 27 | 0 | 0 | 79 |

| | |
|---|---|
| AM PEAK HOUR | 4:30 AM |
| AM PEAK VOLUME | 27 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 26 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 89 | 24 | 3 | 82 | 0 | 0 | 198 |
| % OF TOTAL | 44.9% | 12.1% | 1.5% | 41.4% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 8 | 0 | 0 | 1 | 0 | 0 | 9 | 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 | 16:45 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 3 | 0 | 0 | 3 | 0 | 0 | 6 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 27 | 4 | 1 | 22 | 0 | 0 | 54 | TOTAL | 16 | 3 | 2 | 6 | 0 | 0 | 27 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 22 |

| | |
|---|---|
| AM PEAK HOUR | 2:15 PM |
| AM PEAK VOLUME | 9 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 43 | 7 | 3 | 28 | 0 | 0 | 81 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 53.1% | 8.6% | 3.7% | 34.6% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 94 | 16 | 6 | 57 | 0 | 0 | 173 |
| CLASS 6 | Buses | % OF TOTAL | 54.3% | 9.2% | 3.5% | 32.9% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:15 | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 1 | 0 | 1 | 0 | 0 | 4 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 5:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 3 | 1 | 0 | 0 | 0 | 0 | 4 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:00 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 23:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| **TOTAL** | 15 | 4 | 1 | 22 | 0 | 0 | 42 | **TOTAL** | 36 | 5 | 2 | 7 | 0 | 0 | 50 |
| | | | | **AM PEAK HOUR** | | | 9:00 AM | | | | | | | **AM PEAK HOUR** | 1:00 PM |
| | | | | **AM PEAK VOLUME** | | | 9 | | | | | | | **AM PEAK VOLUME** | 18 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **TOTAL: AM+PM** | 51 | 9 | 3 | 29 | 0 | 0 | 92 |
| **% OF TOTAL** | 55.4% | 9.8% | 3.3% | 31.5% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| **CLASS 1** | PASSENGER VEHICLES |
| **CLASS 2** | 2-AXLE TRUCKS |
| **CLASS 3** | 3-AXLE TRUCKS |
| **CLASS 4** | 4 OR MORE AXLE TRUCKS |
| **CLASS 5** | RV |
| **CLASS 6** | BUS |

A13123

## 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | | PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:15 | 2 | 0 | 2 | 1 | 0 | 0 | 5 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 13 | 0 | 0 | 0 | 0 | 0 | 13 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 2 | 1 | 1 | 0 | 0 | 6 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 9 | 0 | 0 | 1 | 0 | 0 | 10 | 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 | 16:45 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 5:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 1 | 2 | 3 | 0 | 0 | 6 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 7:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 19:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:00 | 1 | 1 | 0 | 2 | 0 | 0 | 4 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 3 | 1 | 0 | 1 | 0 | 0 | 5 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 4 | 0 | 0 | 3 | 0 | 0 | 7 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:00 | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 23:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| 11:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 42 | 8 | 2 | 44 | 0 | 0 | 96 | TOTAL | 52 | 8 | 4 | 13 | 0 | 0 | 77 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 23 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 23 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 94 | 16 | 6 | 57 | 0 | 0 | 173 |
| % OF TOTAL | 54.3% | 9.2% | 3.5% | 32.9% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

# APPENDIX F

# PROJECT SITE PLAN

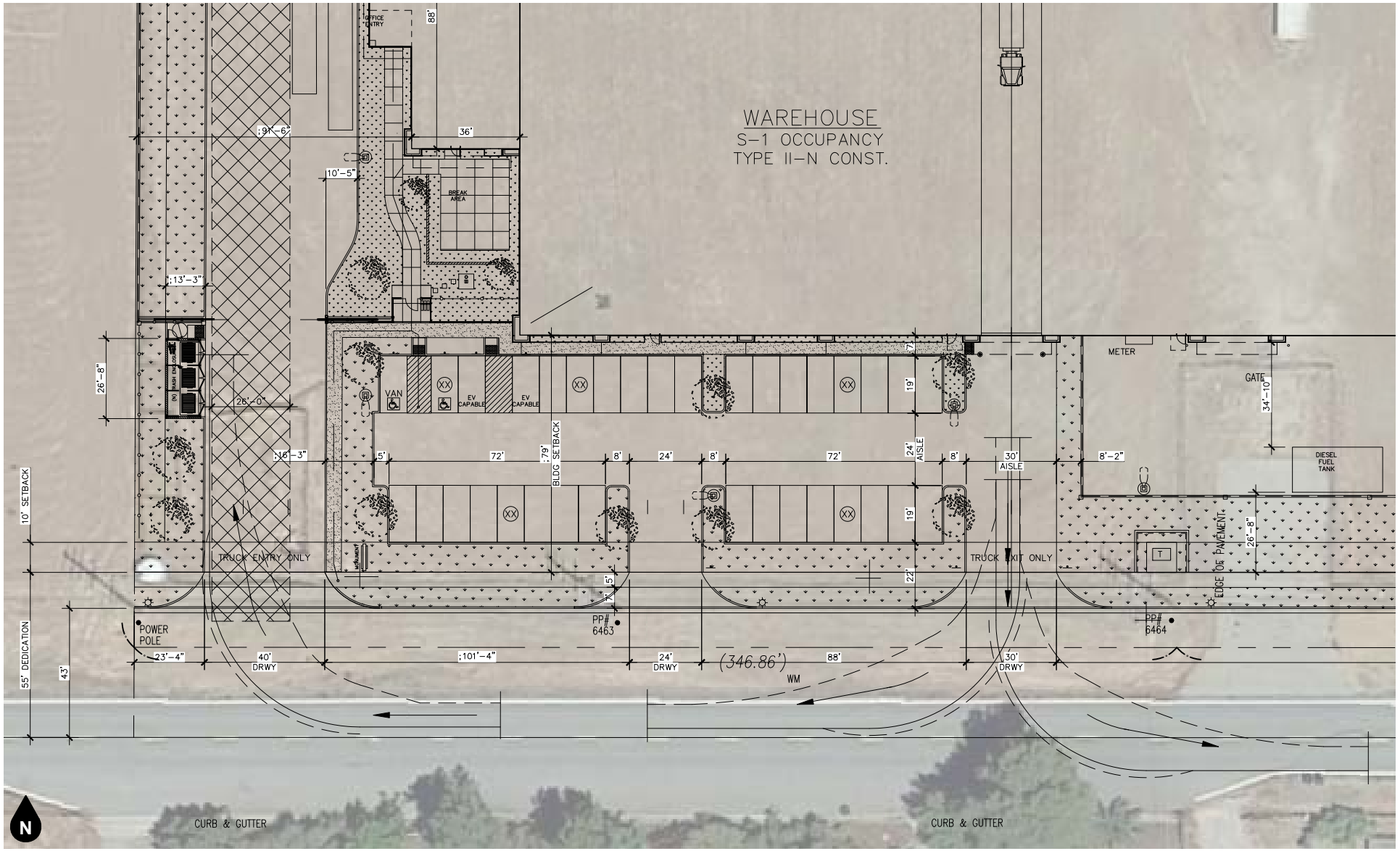



**Figure F1**
**Truck Turning Paths West Driveways**

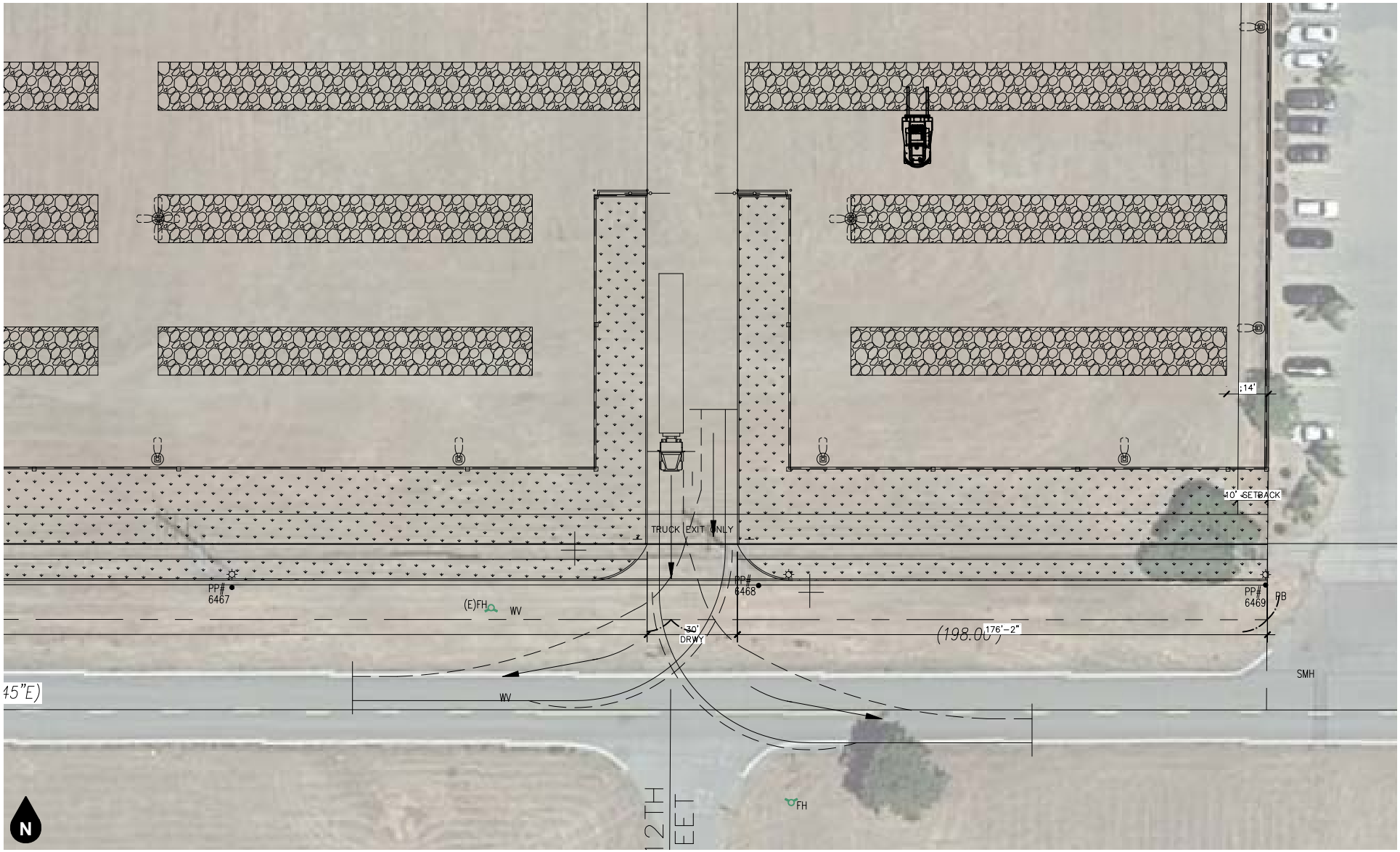



**Figure F2**
**Truck Turning Paths East Driveway**

# APPENDIX G

# ACCESS GATE QUEUING WORKSHEET

## Table G-1
## Gate Stacking Analysis[1]

| | | | |
|---|---|---|---|
| PROJECT: | Brown Strauss Banning Industrial Project | DATE: | 2023-1016 |
| LOCATION: | Project West Driveway at Lincoln Street | JN: | 19588 |

| Gate Distribution: 100% | AM | | PM | |
|---|---|---|---|---|
| | INBOUND | OUTBOUND | INBOUND | OUTBOUND |
| | 9 | 14 | 6 | 3 |
| DEMAND RATE (q) (veh/hr) | 9 | 14 | 6 | 3 |
| SERVICE RATE (Q) (veh/hr/channel)[2] | 195 | 400 | 195 | 400 |
| NO. OF SERVICE POSITIONS (N) | 1 | 1 | 1 | 1 |
| NO. OF STORAGE LANES (N1) | 1 | 1 | 1 | 1 |
| PROBABILITY OF NOT EXCEEDING (P) [3] | 0.05 | 0.05 | 0.05 | 0.05 |
| | P'=95% | P'=95% | P'=95% | P'=95% |
| UTILIZATION FACTOR (q/(N*Q)) | 0.05 | 0.04 | 0.03 | 0.01 |
| LENGTH OF QUEUED VEHICLE (L) FEET | 80 | 80 | 80 | 80 |
| LENGTH OF SERVICE VEHICLE (L) FEET | 100 | 100 | 100 | 100 |
| Q(M) VALUE [4] | 0.05 | 0.04 | 0.03 | 0.01 |
| NO. OF VEHICLES BEING SERVED (N) | 1.00 | 1.00 | 1.00 | 1.00 |
| NO. OF VEHICLES IN QUEUE (M) | -1.03 | -1.11 | -1.14 | -1.37 |
| M = ((LN(P) - LN(Q(M))/LN(p)) - 1 | ~0 | ~0 | ~0 | ~0 |
| TOTAL NUMBER OF VEHICLES (N+M) | 1.00 | 1.00 | 1.00 | 1.00 |
| | ~1 | ~1 | ~1 | ~1 |
| NO. OF VEHICLES IN EACH LANE | 1.00 | 1.00 | 1.00 | 1.00 |
| PER LANE ((N+M)/N1)[5] | 1 | 1 | 1 | 1 |
| LENGTH OF QUEUE (L) FEET | 100 | 100 | 100 | 100 |

Notes:

(1) Source: *Transportation and Land Development* (Institute of Transportation Engineers, 1988).

(2) *Entrance-Exit Design and Control for Major Parking Facilities* (Crommelin, 1972) assumes 195 vehicles per hour service rate for an access gate controlled by cashier providing direction/information, similar to a guard checking in a truck.

(3) P' = confidence interval; probability that queue will not exceed the calculated value.

(4) Q(M) = interpolated table values based on number of service channels (N) and utilization factor (q/NQ) per Table 8-11 (p.231) of *Transportation And Land Development*.

(5) Fractional vehicles are rounded up.



**GANDDINI GROUP INC.**

714.795.3100 | ganddini.com

April 3, 2023

Ms. Lindsay Ortega
SAGRECREST PLANNING + ENVIRONMENTAL
27128 Paseo Espada, Suite 1524
San Juan Capistrano, California 92675

**RE: Brown Strauss Banning Industrial Project Vehicle Miles Traveled Screening Assessment**
Project No. 19588

Dear Ms. Ortega:

Ganddini Group, Inc. is pleased to provide this Vehicle Miles Traveled Screening Assessment for the proposed Brown Strauss Banning Industrial Project. We trust the findings of this analysis will aid you and the City of Banning in assessing the project.

## PROJECT DESCRIPTION

The 14.92-acre project site is located at 1219 and 1431 West Lincoln Street (APNs 540-180-020, -022, and -026) in the City of Banning, California. The project site is currently vacant. Figure 1 shows the project location map and Figure 2 exhibits the project site plan.

The 14.92-acre project site is proposed to be developed with a steel distribution use. The total development proposal includes a 45,000 square foot warehouse, a 3,000 square foot office, two 500 square foot enclosed saw sheds, and an outdoor storage yard. The proposed project is anticipated to be constructed and fully operational by year 2025. The project also involves a General Plan Amendment/Zone Change from Industrial (I) and General Commercial (CC) to Industrial (I).

The existing Brown Strauss Steel operation located at 14970 Jurupa Avenue in the City of Fontana will be closed with operations moved to this City of Banning location.

The project site is proposed to provide four access driveways on West Lincoln Street. The project west driveway will be a truck entrance only driveway. The project central-west driveway will be a full access automobile only driveway. The project central-east and east driveways will be truck exit only driveways.

## PROJECT TRIP GENERATION

To determine the existing trip generation at the project site, 24-hour inbound/outbound trip counts were taken at the project driveway for the existing Brown Strauss Steel location at 14970 Jurupa Avenue in the City of Fontana in 15-minute increments separating passenger cars and trucks by axle. These traffic counts were conducted on Tuesday, March 7, 2023, Wednesday, March 8, 2023, and Thursday, March 9, 2023. Count worksheets are included in Attachment A.

Table 1 shows the existing Brown Strauss facility inbound trips generated for each of the three days with the average of the three days of counts calculated.

Table 2 shows the existing Brown Strauss facility outbound trips generated for each of the three days with the average of the three days of counts calculated.

Table 3 shows the existing trips generated for the existing Brown Strauss facility using the average trips generated for AM peak hour, PM peak hour and daily periods. The trips are separated between passenger cars and trucks by axle.

As shown in Table 3, the existing Brown Strauss facility currently generates approximately 191 daily vehicle trips, including 22 vehicle trips during the AM peak hour and 10 vehicle trips during the PM peak hour.

The existing Brown Strauss Steel operation located at 14970 Jurupa Avenue in the City of Fontana will be closed with operations moved to this City of Banning location. The City of Fontana location is 23.0-acres which is larger than the 14.92-acre project site. Although the existing facility is larger, the trip generation is anticipated to be identical for the proposed development. This will provide for a conservative analysis while conforming with the intent that the project is moving operations and operations will remain similarly to existing status, even if the new location has a smaller square footage.

Truck Trips

In accordance with industry practice and City requirements for truck-oriented uses, the existing Brown Strauss facility trip generation was also calculated in terms of Passenger Car Equivalent (PCE) trips. Truck trips were converted to PCE trips based on the following factors recommended by the City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis (October 2021)*: 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with four or more axles.

As also shown in Table 3, the existing Brown Strauss facility currently generates approximately 343 daily PCE trips, including 43 PCE trips during the AM peak hour and 16 PCE trips during the PM peak hour.

## CRITERIA FOR THE PREPARATION OF TRAFFIC IMPACT ANALYSES

According to the City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021) "[the City TIA Guidelines"], certain types of projects, because of their size, nature, or location, are exempt from the requirement of preparing a traffic impact analysis.

### Vehicle Miles Traveled (VMT) Analysis

The project VMT impact has also been assessed in accordance with the City TIA Guidelines. The City TIA Guidelines establish screening thresholds for certain types of projects that may be presumed to cause a less than significant VMT impact based on substantial evidence provided in the Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018).

The City TIA Guidelines specify the following six screening steps: 1) Transit Priority Area (TPA) Screening; 2) Low VMT Area Screening; 3) Local-Serving Retail; 4) Redevelopment Projects; 5) Project Type Screening; and 6) Project net daily trips less than 500/1,000 ADT.

Transit Priority Area (TPA) Screening

Projects located within a TPA (half mile area around an existing major transit stop or an existing stop along a high-quality transit corridor) may be presumed to have a less than significant impact absent substantial evidence to the contrary. This presumption may not be appropriate if the project:

1. Has a Floor Area Ratio (FAR) of less than 0.75;
2. Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
3. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the City with input from the Metropolitan Planning Organization): or
4. Replaces affordable residential units with a smaller number of moderate or high-income residential units.

The Western Riverside County Council of Governments (WRCOG) VMT Screening Tool was used to determine if the project is located within a TPA. The project site is not located within a TPA based on the WRCOG VMT Screening Tool assessment. Therefore, the proposed project does not satisfy the City-established screening criteria for projects located within a TPA.

Low VMT Area Screening

Projects located in areas with low VMT will be eligible to be screened out as long as they are consistent with the City's General Plan. Proposed residential, office, industrial, or mixed-use projects, which are located within the low VMT zones identified after applying appropriate VMT analysis thresholds in the screening tool, and which do not require a GPA or COZ involving a land use/zoning map change that results in an increase in VMT, would be deemed to have a less than significant impact.

For this screening in the WRCOG VMT Screening Tool, the Riverside County Transportation Model (RIVCOM) travel forecasting model was used to measure VMT performance for individual jurisdictions and for individual traffic analysis zones (TAZs). TAZs are geographic polygons similar to census block groups used to represent areas of homogenous travel behavior. Total daily VMT per service population (population plus employment) was estimated for each TAZ. This presumption may not be appropriate if the project land uses would alter the existing built environment in such a way as to increase the rate or length of vehicle trips.

The proposed project is consistent with existing industrial land uses in the TAZ and there does not appear to be anything unique about the project that would otherwise be mis-represented utilizing the data from the WRCOG VMT Screening Tool. In accordance with the City TIA Guidelines, a low VMT area for industrial projects is defined as a TAZ where VMT per worker does not exceed the current County of Riverside baseline VMT per worker. Exhibit A shows the WRCOG VMT Screening Tool results for the project site.

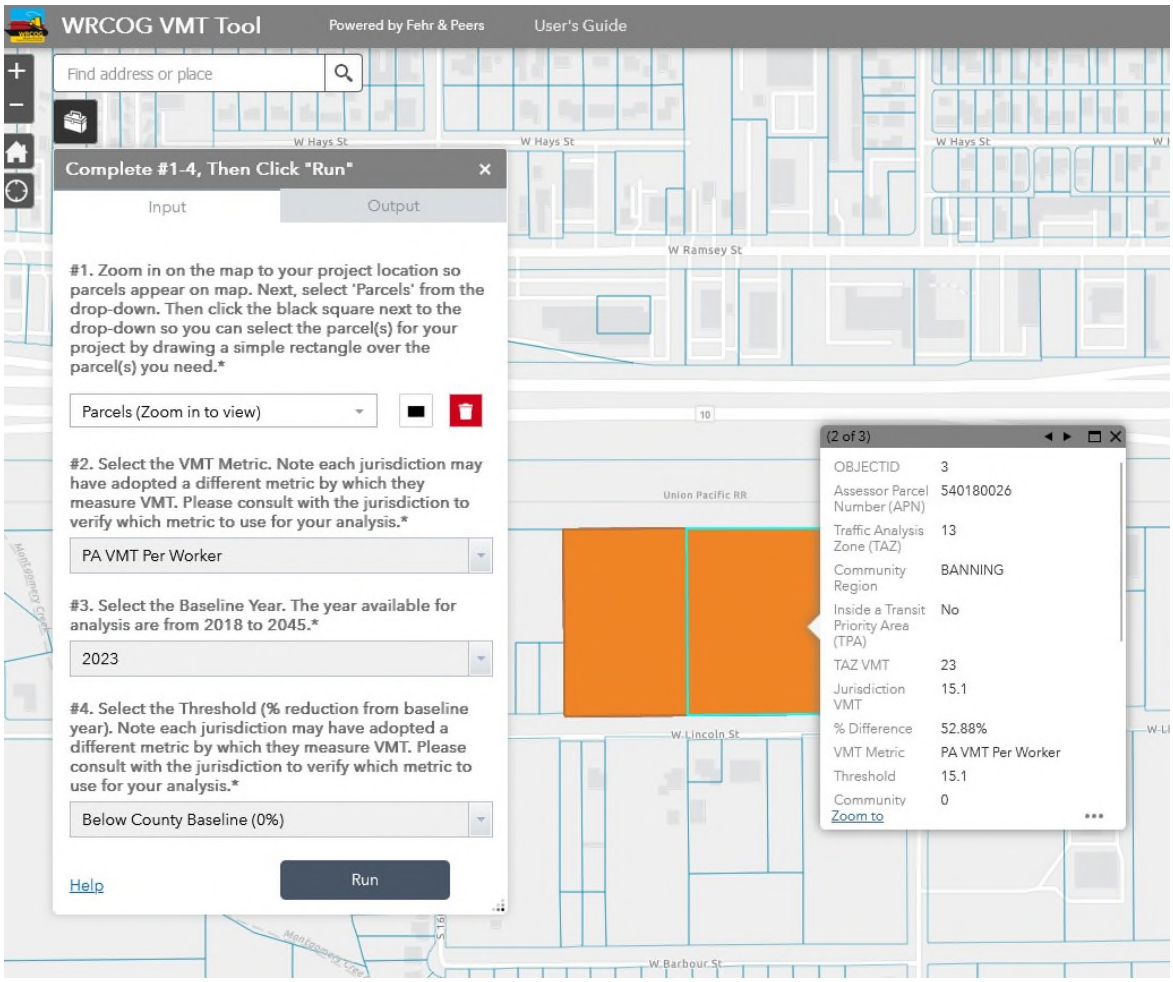



**Exhibit A – WRCOG VMT Screening Tool Results for the Project**

Based on the WRCOG VMT Screening Tool assessment, the proposed project is located within TAZ 13. The project TAZ 2023 PA VMT per worker is equal to 23.0. The jurisdictional 2023 PA VMT per worker is equal to 15.1. Therefore, the proposed project does not satisfy the City-established screening criteria for projects located in low VMT areas.

## Local-Serving Retail

Some project types have been identified as having the presumption of a less than significant impact as they are local serving by nature, Local serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact absent substantial evidence to the contrary. Local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel.

The project is not local-serving retail. Therefore, the proposed project does not satisfy the City-established screening criteria for local-serving retail.

**Redevelopment Projects**

Redevelopment projects that result in equal or a net reduction in VMT are presumed to have a less than significant impact. A net reduction in VMT would occur if the land use proposed by the project would generate less VMT than the existing land use.

The project site is not a redevelopment project. Therefore, this screening criteria does not apply.

**Project Type Screening**

The City of Banning has identified land uses that are exempt from a detailed VMT analysis as they are local-serving in nature. The following uses can also be presumed to have a less than significant impact absent substantial evidence to the contrary as their uses are local serving in nature:

- Local parks
- Day care centers
- Student housing projects on or adjacent to college campuses
- Local-serving gas stations
- Banks
- K-12 public schools
- Institutional/government and public service such as police stations, fire stations, community centers, landfills, transfer stations, and recycling centers
- Projects that are 100 percent affordable housing units

The proposed project does not include one of the land uses noted above. Therefore, this screening criteria does not apply.

**Project Net Daily Trips Less Than 500/1,000 ADT Screening**

Projects that generate fewer than 500 average daily vehicle trips (ADT) (for projects requiring a General Plan Amendment [GPA]) and fewer than 1,000 average daily vehicle trips (for projects that do not require a GPA) would not cause a substantial increase in the total citywide or regional VMT and are therefore presumed to have a less than significant impact on VMT. Projects which generate less than 500 ADT (for projects requiring a GPA) include the following:

- Single Family Residential – 52 dwelling units or fewer
- Low-Rise Multi-Family Residential – 68 dwelling units or fewer
- Mid-Rise Multi-Family Residential – 91 dwelling units or fewer
- Office – 51,334 square feet of less
- Light Industrial – 100,806 square feet or less
- Warehousing/Distribution – 287,356 square feet or less
- High-Cube Transload and Short-Term Storage Warehouse/Distribution – 357,142 square feet or less
- High-Cube Fulfillment Center – 118,652 square feet or less

Projects which generate less than 1,000 ADT (for projects not requiring a GPA) include the following:

- Single Family Residential – 105 dwelling units or fewer
- Low-Rise Multi-Family Residential – 136 dwelling units or fewer

- Mid-Rise Multi-Family Residential – 183 dwelling units or fewer
- Office – 102,669 square feet of less
- Light Industrial – 201,612 square feet or less
- Warehousing/Distribution – 574,712 square feet or less
- High-Cube Transload and Short-Term Storage Warehouse/Distribution – 714,285 square feet or less
- High-Cube Fulfillment Center – 237,304 square feet or less

The project does require a General Plan Amendment and the proposed project is forecast to generate fewer than 500 daily vehicle trips; therefore, the proposed project satisfies the City-established screening criteria for projects forecast to generate fewer than 500 net daily trips and may presumed to result in a less than significant VMT impact.

## CONCLUSION

The proposed project satisfies the City-established screening criteria for projects forecast to generate fewer than 500 net daily trips and may presumed to result in a less than significant VMT impact.

We appreciate the opportunity to assist you on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100 x 103.

Sincerely,

GANDDINI GROUP, INC.
Bryan Crawford | Senior Associate
Giancarlo Ganddini, PE, PTP | Principal



## Table 1 (1 of 3)
## Survey Site Inbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 12:00 AM - 12:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:15 AM - 12:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:30 AM - 12:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:45 AM - 1:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 AM - 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 AM - 1:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 AM - 1:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 AM - 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 AM - 2:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 AM - 2:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 AM - 2:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 AM - 3:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 AM - 3:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 AM - 3:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 AM - 3:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 AM - 4:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 AM - 4:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 AM - 4:30 AM | 3 | 0 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 5 | 3 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 4 |
| 4:30 AM - 4:45 AM | 11 | 0 | 0 | 0 | 11 | 10 | 0 | 0 | 0 | 10 | 8 | 0 | 0 | 1 | 9 | 10 | 0 | 0 | 1 | 11 |
| 4:45 AM - 5:00 AM | 6 | 0 | 0 | 2 | 8 | 5 | 0 | 0 | 2 | 7 | 6 | 0 | 0 | 1 | 7 | 6 | 0 | 0 | 2 | 8 |
| 5:00 AM - 5:15 AM | 1 | 0 | 0 | 4 | 5 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 3 | 4 |
| 5:15 AM - 5:30 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 5:30 AM - 5:45 AM | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| 5:45 AM - 6:00 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| 6:00 AM - 6:15 AM | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 2 | 3 |
| 6:15 AM - 6:30 AM | 1 | 1 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 6:30 AM - 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:45 AM - 7:00 AM | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 3 | 0 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 4 |
| 7:00 AM - 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:15 AM - 7:30 AM | 0 | 0 | 0 | 2 | 2 | 0 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 |
| 7:30 AM - 7:45 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 7:45 AM - 8:00 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 8:00 AM - 8:15 AM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 1 | 1 | 0 | 1 | 3 |
| 8:15 AM - 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 8:30 AM - 8:45 AM | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 6 | 2 | 0 | 1 | 1 | 4 |

## Table 1 (2 of 3)
## Survey Site Inbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 8:45 AM - 9:00 AM | 0 | 1 | 0 | 3 | 4 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 4 |
| 9:00 AM - 9:15 AM | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 9:15 AM - 9:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 9:30 AM - 9:45 AM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 3 |
| 9:45 AM - 10:00 AM | 2 | 1 | 0 | 0 | 3 | 2 | 0 | 0 | 2 | 4 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 4 |
| 10:00 AM - 10:15 AM | 2 | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 3 |
| 10:15 AM - 10:30 AM | 1 | 1 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 3 |
| 10:30 AM - 10:45 AM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 10:45 AM - 11:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 11:00 AM - 11:15 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 11:15 AM - 11:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 AM - 11:45 AM | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 4 | 1 | 0 | 0 | 1 | 2 | 2 | 0 | 0 | 2 | 4 |
| 11:45 AM - 12:00 PM | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 5 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 12:00 PM - 12:15 PM | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 12:15 PM - 12:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 1 | 2 |
| 12:30 PM - 12:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 12:45 PM - 1:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 |
| 1:00 PM - 1:15 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 1:15 PM - 1:30 PM | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 1:30 PM - 1:45 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 2 |
| 1:45 PM - 2:00 PM | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 1 | 4 |
| 2:00 PM - 2:15 PM | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 2:15 PM - 2:30 PM | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 3 |
| 2:30 PM - 2:45 PM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 0 | 3 |
| 2:45 PM - 3:00 PM | 1 | 1 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 3 |
| 3:00 PM - 3:15 PM | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 3:15 PM - 3:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 PM - 3:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 3:45 PM - 4:00 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 4:00 PM - 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM - 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM - 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 4:45 PM - 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 5:00 PM - 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM - 5:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 5:30 PM - 5:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |

## Table 1 (3 of 3)
## Survey Site Inbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 5:45 PM - 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:00 PM - 6:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:15 PM - 6:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:30 PM - 6:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:45 PM - 7:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 PM - 7:15 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 7:15 PM - 7:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 PM - 7:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 PM - 8:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 PM - 8:15 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 8:15 PM - 8:30 PM | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 8:30 PM - 8:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 PM - 9:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 PM - 9:15 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 9:15 PM - 9:30 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 9:30 PM - 9:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 PM - 10:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 PM - 10:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 PM - 10:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 PM - 10:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 PM - 11:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 PM - 11:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 PM - 11:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 PM - 11:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 PM - 12:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Daily | 55 | 7 | 1 | 32 | 95 | 45 | 10 | 2 | 41 | 98 | 43 | 7 | 3 | 28 | 81 | 48 | 8 | 2 | 34 | 92 |
| AM Peak Hour* | 8:00 AM - 9:00 AM | | | | | | | | | | | | | | | 3 | 2 | 2 | 5 | 12 |
| PM Peak Hour* | 4:30 PM - 5:30 PM | | | | | | | | | | | | | | | 0 | 2 | 0 | 2 | 4 |

Notes:

* Peak hours shown for peak of adjacent street traffic (one hour between 7-9 AM and one hour between 4-6 PM) based on sum of inbound plus outbound trips.

## Table 2 (1 of 3)
## Survey Site Outbound Trips Generated Summary

| Time Period | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total | Passenger Cars | Trucks | | | Total |
| | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | | | 2-Axle | 3-Axle | 4+-Axle | |
| 12:00 AM - 12:15 AM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 12:15 AM - 12:30 AM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 |
| 12:30 AM - 12:45 AM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 12:45 AM - 1:00 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1:00 AM - 1:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 AM - 1:30 AM | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 1:30 AM - 1:45 AM | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1:45 AM - 2:00 AM | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 2:00 AM - 2:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 AM - 2:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 AM - 2:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 AM - 3:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 AM - 3:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 AM - 3:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 AM - 3:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 AM - 4:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 AM - 4:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 AM - 4:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 AM - 4:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 4:45 AM - 5:00 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 5:00 AM - 5:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 5:15 AM - 5:30 AM | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| 5:30 AM - 5:45 AM | 0 | 0 | 1 | 4 | 5 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 1 | 3 | 4 |
| 5:45 AM - 6:00 AM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 6:00 AM - 6:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:15 AM - 6:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 6:30 AM - 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:45 AM - 7:00 AM | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 0 | 0 | 1 | 2 | 3 |
| 7:00 AM - 7:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 7:15 AM - 7:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 4 | 4 | 1 | 1 | 0 | 2 | 4 |
| 7:30 AM - 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 7:45 AM - 8:00 AM | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 8:00 AM - 8:15 AM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 |
| 8:15 AM - 8:30 AM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 3 |
| 8:30 AM - 8:45 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |

## Table 2 (2 of 3)
## Survey Site Outbound Trips Generated Summary

| | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| 8:45 AM - 9:00 AM | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 3 |
| 9:00 AM - 9:15 AM | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 0 | 1 | 0 | 2 | 3 | 1 | 1 | 1 | 1 | 4 |
| 9:15 AM - 9:30 AM | 1 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 1 | 3 |
| 9:30 AM - 9:45 AM | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 3 |
| 9:45 AM - 10:00 AM | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 3 |
| 10:00 AM - 10:15 AM | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 2 | 5 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 4 |
| 10:15 AM - 10:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 10:30 AM - 10:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 2 |
| 10:45 AM - 11:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 AM - 11:15 AM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 11:15 AM - 11:30 AM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 11:30 AM - 11:45 AM | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 3 |
| 11:45 AM - 12:00 PM | 1 | 0 | 0 | 1 | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 3 |
| 12:00 PM - 12:15 PM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 12:15 PM - 12:30 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 4 | 2 | 0 | 1 | 0 | 3 | 1 | 1 | 1 | 2 | 5 |
| 12:30 PM - 12:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 2 |
| 12:45 PM - 1:00 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 1:00 PM - 1:15 PM | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 2 |
| 1:15 PM - 1:30 PM | 0 | 0 | 0 | 2 | 2 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 3 |
| 1:30 PM - 1:45 PM | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 10 | 11 | 0 | 0 | 0 | 11 | 7 | 0 | 0 | 0 | 7 |
| 1:45 PM - 2:00 PM | 0 | 0 | 0 | 1 | 1 | 6 | 0 | 0 | 1 | 7 | 2 | 1 | 0 | 1 | 4 | 3 | 1 | 0 | 1 | 5 |
| 2:00 PM - 2:15 PM | 15 | 0 | 0 | 1 | 16 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 6 | 0 | 1 | 1 | 8 |
| 2:15 PM - 2:30 PM | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 2:30 PM - 2:45 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:45 PM - 3:00 PM | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 3:00 PM - 3:15 PM | 2 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 3:15 PM - 3:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 3:30 PM - 3:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 PM - 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 4:00 PM - 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM - 4:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 4:30 PM - 4:45 PM | 2 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 |
| 4:45 PM - 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 2 |
| 5:00 PM - 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM - 5:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 5:30 PM - 5:45 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |

## Table 2 (3 of 3)
## Survey Site Outbound Trips Generated Summary

| | Number of Inbound Trips Generated - Project Driveway on Jurupa Avenue | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tuesday (March 7, 2023) | | | | | Wednesday (March 8, 2023) | | | | | Thursday (March 9, 2023) | | | | | Average | | | | |
| 5:45 PM - 6:00 PM | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 6:00 PM - 6:15 PM | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 |
| 6:15 PM - 6:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 6:30 PM - 6:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:45 PM - 7:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:00 PM - 7:15 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 7:15 PM - 7:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 7:30 PM - 7:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 7:45 PM - 8:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 8:00 PM - 8:15 PM | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 8:15 PM - 8:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 PM - 8:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 PM - 9:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 9:00 PM - 9:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 PM - 9:30 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 9:30 PM - 9:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 PM - 10:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 PM - 10:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 PM - 10:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 PM - 10:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 PM - 11:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 PM - 11:15 PM | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 |
| 11:15 PM - 11:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 PM - 11:45 PM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 5 | 0 | 0 | 0 | 5 | 3 | 0 | 0 | 0 | 3 |
| 11:45 PM - 12:00 AM | 3 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 3 |
| Daily | 56 | 9 | 1 | 33 | 99 | 44 | 14 | 1 | 41 | 100 | 51 | 9 | 3 | 29 | 92 | 51 | 11 | 2 | 35 | 99 |
| AM Peak Hour* | 8:00 AM - 9:00 AM | | | | | | | | | | | | | | | 4 | 3 | 0 | 3 | 10 |
| PM Peak Hour* | 4:30 PM - 5:30 PM | | | | | | | | | | | | | | | 4 | 2 | 0 | 0 | 6 |

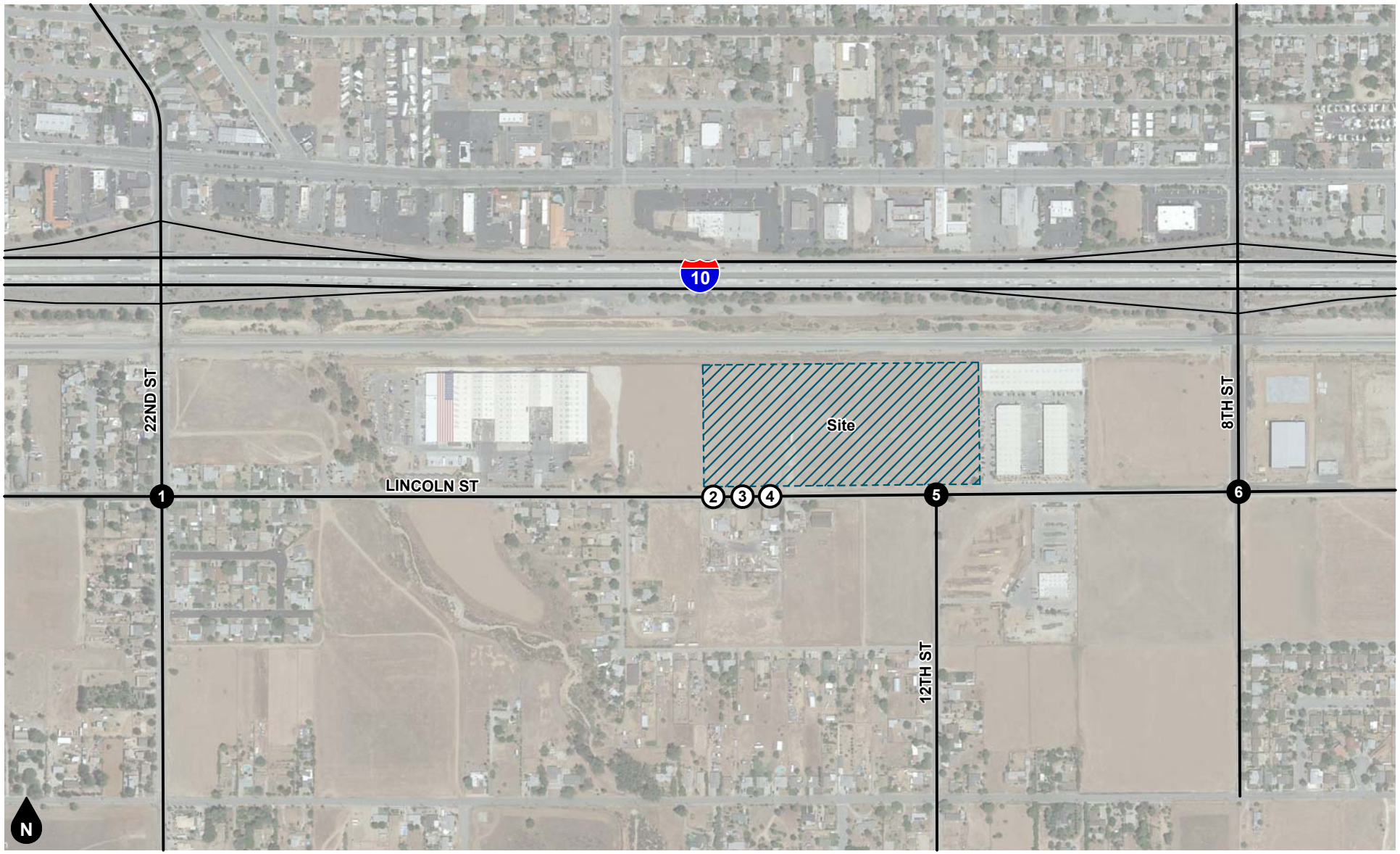
Notes:

* Peak hours shown for peak of adjacent street traffic (one hour between 7-9 AM and one hour between 4-6PM) based on sum of inbound plus outbound trips.

**Table 3**
**Project Trips Generated**

| Trips Generated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | |
| Land Use | Source[1] | Quantity[2] | In | Out | Total | In | Out | Total | Daily |
| Existing Brown Strauss Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 2 | 3 | 5 | 2 | 2 | 4 | 19 |
| Trucks (3-Axle) | | | 2 | 0 | 2 | 0 | 0 | 0 | 4 |
| Trucks (4+-Axle) | | | 5 | 3 | 8 | 2 | 0 | 2 | 69 |
| Subtotal | | | 12 | 10 | 22 | 4 | 6 | 10 | 191 |
| Trips Generated in Passenger Car Equivalents[3] | | | | | | | | | |
| Existing Brown Strauss Facility | Counts | 23.00 AC | | | | | | | |
| Passenger Cars | | | 3 | 4 | 7 | 0 | 4 | 4 | 99 |
| Trucks (2-Axle) | | | 3 | 5 | 8 | 3 | 3 | 6 | 29 |
| Trucks (3-Axle) | | | 4 | 0 | 4 | 0 | 0 | 0 | 8 |
| Trucks (4+-Axle) | | | 15 | 9 | 24 | 6 | 0 | 6 | 207 |
| Subtotal | | | 25 | 18 | 43 | 9 | 7 | 16 | 343 |

Notes:
1. Traffic counts at project driveway (see Tables 1 and 2).
2. AC = Acres
3. Source: City of Banning *Traffic Impact Analysis Guidelines for Local Transportation Analysis and Vehicle Miles Traveled Analysis* (October 2021).
   2-Axle = 1.5; 3-Axle = 2.0; 4+-Axle = 3.0




Legend

(#) Study Intersection

(#) Project Driveway

**Figure 1**
**Project Location Map**

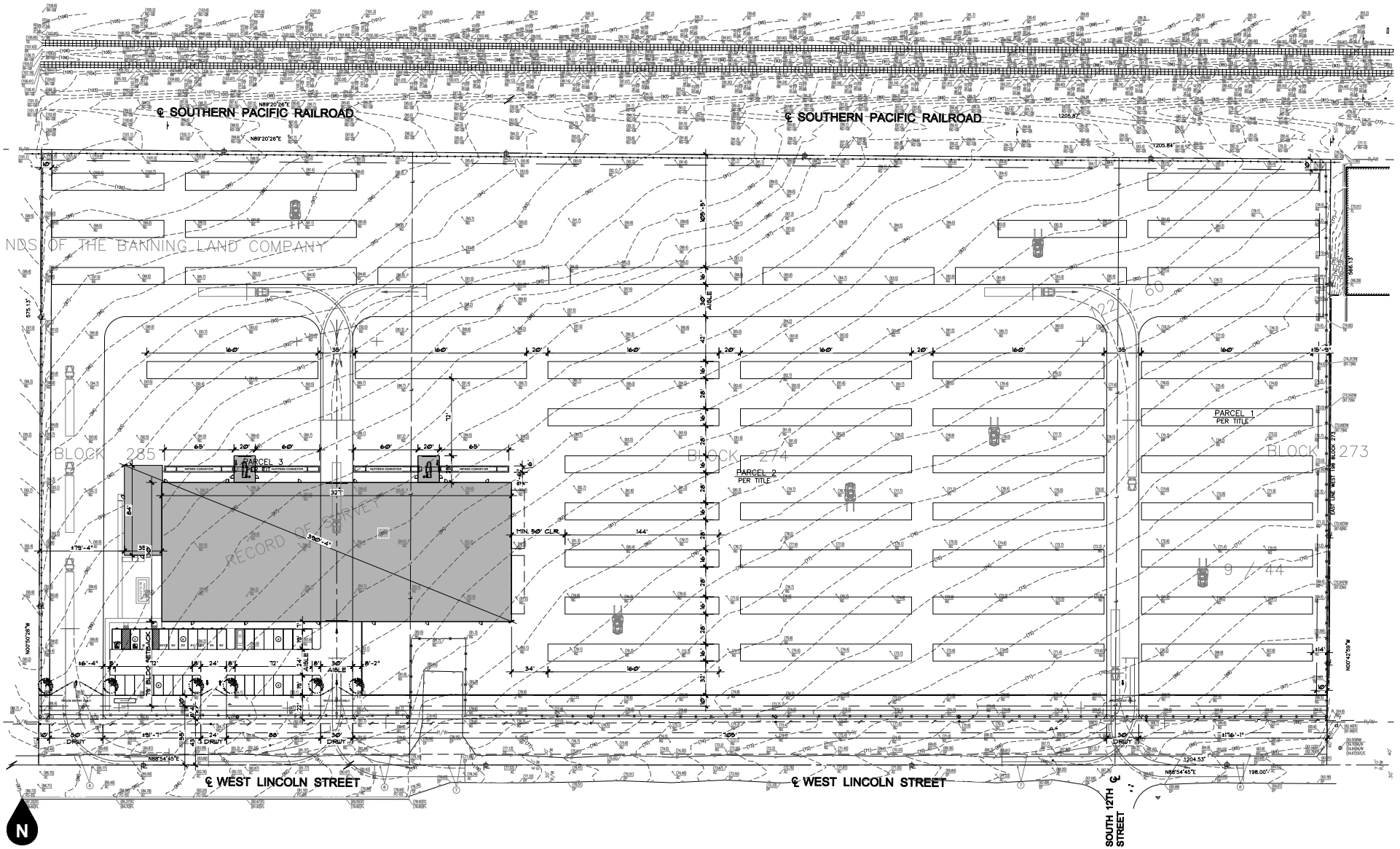



**Figure 2**
**Site Plan**

# ATTACHMENT A

# TRAFFIC COUNTS

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 7:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 37 | 6 | 1 | 21 | 0 | 0 | 65 | TOTAL | 18 | 1 | 0 | 11 | 0 | 0 | 30 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 27 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 8 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 55 | 7 | 1 | 32 | 0 | 0 | 95 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 57.9% | 7.4% | 1.1% | 33.7% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 111 | 16 | 2 | 65 | 0 | 0 | 194 |
| CLASS 6 | Buses | % OF TOTAL | 57.2% | 8.2% | 1.0% | 33.5% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:15 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 13:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 15 | 0 | 0 | 1 | 0 | 0 | 16 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 1 | 4 | 0 | 0 | 5 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 20:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 21:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 25 | 5 | 1 | 21 | 0 | 0 | 52 | TOTAL | 31 | 4 | 0 | 12 | 0 | 0 | 47 |
| | | | | AM PEAK HOUR | | | 1:15 AM | | | | | AM PEAK HOUR | | | 2:00 PM |
| | | | | AM PEAK VOLUME | | | 10 | | | | | AM PEAK VOLUME | | | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 56 | 9 | 1 | 33 | 0 | 0 | 99 |
| % OF TOTAL | 56.6% | 9.1% | 1.0% | 33.3% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | BUS |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Tuesday, March 07, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM | COMBINED | | | | | | | PM | COMBINED | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | Time | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 2 | 0 | 0 | 4 |
| 1:15 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:15 | 1 | 0 | 0 | 4 | 0 | 0 | 5 |
| 1:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 13:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:45 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 13:45 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 17 | 0 | 0 | 1 | 0 | 0 | 18 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 4 | 0 | 0 | 1 | 0 | 0 | 5 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 4 | 1 | 0 | 0 | 0 | 0 | 5 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4:45 | 7 | 0 | 0 | 2 | 0 | 0 | 9 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 1 | 0 | 0 | 5 | 0 | 0 | 6 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 1 | 6 | 0 | 0 | 7 | 17:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 5:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 17:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:00 | 1 | 0 | 0 | 3 | 0 | 0 | 4 | 18:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 6:15 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 |
| 7:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 20:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 2 | 0 | 3 | 0 | 0 | 6 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 9:15 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 21:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 9:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 2 | 0 | 1 | 0 | 0 | 5 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 62 | 11 | 2 | 42 | 0 | 0 | 117 | TOTAL | 49 | 5 | 0 | 23 | 0 | 0 | 77 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 29 |

| | |
|---|---|
| AM PEAK HOUR | 2:00 PM |
| AM PEAK VOLUME | 27 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 111 | 16 | 2 | 65 | 0 | 0 | 194 |
| % OF TOTAL | 57.2% | 8.2% | 1.0% | 33.5% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 16:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:45 | 5 | 0 | 0 | 2 | 0 | 0 | 7 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:45 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 0 | 0 | 2 | 0 | 0 | 4 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 1 | 3 | 0 | 1 | 0 | 0 | 5 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 31 | 8 | 2 | 29 | 0 | 0 | 70 | TOTAL | 14 | 2 | 0 | 12 | 0 | 0 | 28 |
| | | | | AM PEAK HOUR | | | 4:15 AM | | | | | AM PEAK HOUR | | | 2:00 PM |
| | | | | AM PEAK VOLUME | | | 25 | | | | | AM PEAK VOLUME | | | 11 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 45 | 10 | 2 | 41 | 0 | 0 | 98 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 45.9% | 10.2% | 2.0% | 41.8% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 89 | 24 | 3 | 82 | 0 | 0 | 198 |
| CLASS 6 | Buses | % OF TOTAL | 44.9% | 12.1% | 1.5% | 41.4% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 0:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 5:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 1 | 2 | 0 | 2 | 0 | 0 | 5 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 23:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11:45 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 23:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **TOTAL** | 13 | 9 | 1 | 26 | 0 | 0 | 49 | **TOTAL** | 31 | 5 | 0 | 15 | 0 | 0 | 51 |
| | | | | **AM PEAK HOUR** | | | 9:30 AM | | | | | | | **AM PEAK HOUR** | 1:15 PM |
| | | | | **AM PEAK VOLUME** | | | 11 | | | | | | | **AM PEAK VOLUME** | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **TOTAL: AM+PM** | 44 | 14 | 1 | 41 | 0 | 0 | 100 |
| **% OF TOTAL** | 44.0% | 14.0% | 1.0% | 41.0% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| **CLASS 1** | PASSENGER VEHICLES |
| **CLASS 2** | 2-AXLE TRUCKS |
| **CLASS 3** | 3-AXLE TRUCKS |
| **CLASS 4** | 4 OR MORE AXLE TRUCKS |
| **CLASS 5** | RV |
| **CLASS 6** | BUS |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, March 08, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | COMBINED 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | COMBINED 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 12:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 0:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:15 | 0 | 0 | 0 | 5 | 0 | 0 | 5 |
| 0:30 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 1 | 0 | 2 | 0 | 0 | 3 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 10 | 0 | 0 | 1 | 0 | 0 | 11 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 7 | 0 | 0 | 2 | 0 | 0 | 9 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 2 | 0 | 0 | 0 | 0 | 4 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 16:30 | 3 | 0 | 0 | 1 | 0 | 0 | 4 |
| 4:45 | 5 | 0 | 0 | 2 | 0 | 0 | 7 | 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 5 | 0 | 0 | 6 | 17:15 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 5:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 6:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 1 | 0 | 0 | 4 | 0 | 0 | 5 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 |
| 6:45 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 2 | 0 | 3 | 0 | 0 | 5 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 1 | 1 | 0 | 2 | 0 | 0 | 4 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 19:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 2 | 1 | 1 | 2 | 0 | 0 | 6 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 1 | 1 | 0 | 3 | 0 | 0 | 5 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 1 | 0 | 3 | 0 | 0 | 6 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 2 | 3 | 0 | 2 | 0 | 0 | 7 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 23:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:15 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 2 | 0 | 0 | 4 | 0 | 0 | 6 | 23:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11:45 | 1 | 5 | 0 | 1 | 0 | 0 | 7 | 23:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **TOTAL** | 44 | 17 | 3 | 55 | 0 | 0 | 119 | **TOTAL** | 45 | 7 | 0 | 27 | 0 | 0 | 79 |

| | |
|---|---|
| **AM PEAK HOUR** | 4:30 AM |
| **AM PEAK VOLUME** | 27 |

| | |
|---|---|
| **AM PEAK HOUR** | 1:30 PM |
| **AM PEAK VOLUME** | 26 |

| | | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| **TOTAL: AM+PM** | | 89 | 24 | 3 | 82 | 0 | 0 | 198 |
| **% OF TOTAL** | | 44.9% | 12.1% | 1.5% | 41.4% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| **CLASS 1** | PASSENGER VEHICLES |
| **CLASS 2** | 2-AXLE TRUCKS |
| **CLASS 3** | 3-AXLE TRUCKS |
| **CLASS 4** | 4 OR MORE AXLE TRUCKS |
| **CLASS 5** | RV |
| **CLASS 6** | Buses |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | IN 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:15 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 8 | 0 | 0 | 1 | 0 | 0 | 9 | 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 | 16:45 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 19:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 20:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 3 | 0 | 0 | 3 | 0 | 0 | 6 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 23:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 27 | 4 | 1 | 22 | 0 | 0 | 54 | TOTAL | 16 | 3 | 2 | 6 | 0 | 0 | 27 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 22 |

| | |
|---|---|
| AM PEAK HOUR | 2:15 PM |
| AM PEAK VOLUME | 9 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CLASS 1 | PASSENGER VEHICLES | TOTAL: AM+PM | 43 | 7 | 3 | 28 | 0 | 0 | 81 |
| CLASS 2 | 2-AXLE TRUCKS | % OF TOTAL | 53.1% | 8.6% | 3.7% | 34.6% | 0.0% | 0.0% | 100.0% |
| CLASS 3 | 3-AXLE TRUCKS | | | | | | | | |
| CLASS 4 | 4 OR MORE AXLE TRUCKS | | | | | | | | |
| CLASS 5 | RV | TOTAL: ALL | 94 | 16 | 6 | 57 | 0 | 0 | 173 |
| CLASS 6 | Buses | % OF TOTAL | 54.3% | 9.2% | 3.5% | 32.9% | 0.0% | 0.0% | 100.0% |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023
**JOB #:** SC3845
**CITY:** Fontana
**LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | OUT 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:15 | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 11 | 0 | 0 | 0 | 0 | 0 | 11 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 1 | 0 | 1 | 0 | 0 | 4 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:45 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 5:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 3 | 1 | 0 | 0 | 0 | 0 | 4 | 20:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:00 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 23:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| 11:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| **TOTAL** | 15 | 4 | 1 | 22 | 0 | 0 | 42 | **TOTAL** | 36 | 5 | 2 | 7 | 0 | 0 | 50 |
| | | | | **AM PEAK HOUR** | | | 9:00 AM | | | | | | | **AM PEAK HOUR** | 1:00 PM |
| | | | | **AM PEAK VOLUME** | | | 9 | | | | | | | **AM PEAK VOLUME** | 18 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **TOTAL: AM+PM** | 51 | 9 | 3 | 29 | 0 | 0 | 92 |
| **% OF TOTAL** | 55.4% | 9.8% | 3.3% | 31.5% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| **CLASS 1** | PASSENGER VEHICLES |
| **CLASS 2** | 2-AXLE TRUCKS |
| **CLASS 3** | 3-AXLE TRUCKS |
| **CLASS 4** | 4 OR MORE AXLE TRUCKS |
| **CLASS 5** | RV |
| **CLASS 6** | BUS |

A13123

# 24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

**DATE:** Thursday, March 09, 2023 **CITY:** Fontana

**JOB #:** SC3845 **LOCATION:** CLASS1 DWY1 north of Jurupa.

| AM TIME | COMBINED 1 | 2 | 3 | 4 | 5 | 6 | TOTAL | PM Time | COMBINED 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 12:15 | 2 | 0 | 2 | 1 | 0 | 0 | 5 |
| 0:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:30 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:00 | 2 | 0 | 0 | 1 | 0 | 0 | 3 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:30 | 13 | 0 | 0 | 0 | 0 | 0 | 13 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13:45 | 2 | 2 | 1 | 1 | 0 | 0 | 6 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:00 | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:30 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14:45 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:00 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 16:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 4:30 | 9 | 0 | 0 | 1 | 0 | 0 | 10 | 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4:45 | 6 | 0 | 0 | 1 | 0 | 0 | 7 | 16:45 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 5:00 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 17:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:00 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 18:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 18:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 6:30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 18:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 1 | 2 | 3 | 0 | 0 | 6 | 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19:00 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 7:15 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 19:15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 19:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:00 | 1 | 1 | 0 | 2 | 0 | 0 | 4 | 20:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 3 | 1 | 0 | 1 | 0 | 0 | 5 | 20:15 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 4 | 0 | 0 | 3 | 0 | 0 | 7 | 20:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 20:45 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9:00 | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 21:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 21:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 21:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 21:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 22:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 22:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 22:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23:00 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 23:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 23:30 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| 11:45 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 23:45 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 42 | 8 | 2 | 44 | 0 | 0 | 96 | TOTAL | 52 | 8 | 4 | 13 | 0 | 0 | 77 |

| | |
|---|---|
| AM PEAK HOUR | 4:15 AM |
| AM PEAK VOLUME | 23 |

| | |
|---|---|
| AM PEAK HOUR | 1:30 PM |
| AM PEAK VOLUME | 23 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TOTAL: AM+PM | 94 | 16 | 6 | 57 | 0 | 0 | 173 |
| % OF TOTAL | 54.3% | 9.2% | 3.5% | 32.9% | 0.0% | 0.0% | 100.0% |

| | |
|---|---|
| CLASS 1 | PASSENGER VEHICLES |
| CLASS 2 | 2-AXLE TRUCKS |
| CLASS 3 | 3-AXLE TRUCKS |
| CLASS 4 | 4 OR MORE AXLE TRUCKS |
| CLASS 5 | RV |
| CLASS 6 | Buses |