City of Banning

99 E. Ramsey Street · P.O. Box 998 · Banning, CA 92220-0998 · (951) 922-3125 · Fax (951) 922-3128

COMMUNITY DEVELOPMENT DEPARTMENT

NOTICE OF PUBLIC HEARING AND NOTICE OF INTENT (NOI) TO ADOPT A NEGATIVE DECLARATION (ND), CONSIDERATION OF GENERAL PLAN AMENDMENT 19-2502 TO CHANGE THE CIRCULATION ELEMENT, IN THE CITY OF BANNING, CALIFORNIA (APN's 537-110-007, 537-110-008, 537-110-009, and 537-110-010)

NOI (ND) 20-day comment period: Opens, January 17, 2020 and Closes, February 5, 2020

NOTICE IS HEREBY GIVEN of a public hearing before the City of Banning Planning Commission, to be held on **Wednesday, March 4, 2020 at 6:30 p.m. in the Council Chambers, City Hall, 99 East Ramsey Street, Banning, California,** to consider the proposed project. The project consists of updating the Circulation Element of the General Plan to realign Sun Lakes Boulevard as a mostly straight, east-west road between its intersections with South Highland Home Road on the west side and Sunset Avenue on the eastern side of the Project (east of Sunset Avenue, Sun Lakes Boulevard becomes West Westward Avenue). The proposed road follows the existing right-of-way (ROW) between Sunset Avenue and South Highland Home Road. Information regarding the Negative Declaration and General Plan Amendment can be obtained by contacting the City's Community Development Department, Planning Division at (951) 922-3125, or by visiting the City Hall located at 99 East Ramsey Street, Banning. You may also go to the City of Banning website at https://banningca.gov/Archive.aspx?ADID=2230

All parties interested in speaking either in support of or in opposition to this item are invited to attend the hearing, or to send their written comments to the **Community Development Department, Planning Division, City of Banning at 99 E. Ramsey Street, P.O. Box 998, 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 City Clerk at, or prior to, the time the Planning Commission makes its 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
Community Development Director

Dated: January 14, 2020
Publish: January 17, 2020

Print Form

Appendix C

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Sun Lakes Boulevard Circulation Element General Plan Amendment

Lead Agency: City of Banning | Contact Person: Mark de Manincor
Mailing Address: 99 East Ramsey Street | Phone: 951-922-3123
City: Banning | Zip: 92220 | County: Riverside

Project Location: County: Riverside | City/Nearest Community: Banning
Cross Streets: Sunset Avenue and Westward Avenue | Zip Code: 92220
Longitude/Latitude (degrees, minutes and seconds): 33 ° 55 ′ 12.85″ N / 116 ° 55 ′ 16.29″ W | Total Acres: 13.3
Assessor's Parcel No.: 537-110-007, 537-110-008, 537-110 | Section: 7 | Twp.: 3 South | Range: 1 East | Base: San Bern
Within 2 Miles: State Hwy #: 10 | Waterways: N/A
Airports: Banning Municipal | Railways: Union Pacific | Schools:

Document Type:

CEQA: ☐ NOP ☐ Draft EIR | NEPA: ☐ NOI | Other: ☐ Joint Document
☐ Early Cons ☐ Supplement/Subsequent EIR ☐ EA ☐ Final Document
☒ Neg Dec (Prior SCH No.) ☐ Draft EIS ☐ Other:
☐ Mit Neg Dec Other: ☐ FONSI

Local Action Type:

☐ General Plan Update ☐ Specific Plan ☐ Rezone ☐ Annexation
☒ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☐ Site Plan ☐ Land Division (Subdivision, etc.) ☐ Other:

Development Type:

☐ Residential: Units Acres
☐ Office: Sq.ft. Acres Employees
☐ Commercial: Sq.ft. Acres Employees
☐ Industrial: Sq.ft. Acres Employees
☐ Educational:
☐ Recreational:
☐ Water Facilities: Type MGD

☒ Transportation: Type Major Arterial Road, 5,390 linear feet
☐ Mining: Mineral
☐ Power: Type MW
☐ Waste Treatment: Type MGD
☐ Hazardous Waste: Type
☐ Other:

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☐ Fiscal ☒ Recreation/Parks ☐ Vegetation
☒ Agricultural Land ☒ Flood Plain/Flooding ☐ Schools/Universities ☒ Water Quality
☒ Air Quality ☒ Forest Land/Fire Hazard ☐ Septic Systems ☒ Water Supply/Groundwater
☒ Archeological/Historical ☒ Geologic/Seismic ☒ Sewer Capacity ☒ Wetland/Riparian
☒ Biological Resources ☒ Minerals ☒ Soil Erosion/Compaction/Grading ☐ Growth Inducement
☐ Coastal Zone ☒ Noise ☒ Solid Waste ☒ Land Use
☒ Drainage/Absorption ☒ Population/Housing Balance ☒ Toxic/Hazardous ☒ Cumulative Effects
☐ Economic/Jobs ☒ Public Services/Facilities ☒ Traffic/Circulation ☐ Other:

Present Land Use/Zoning/General Plan Designation:

Right-of-way

Project Description: *(please use a separate page if necessary)*

The proposed Sun Lakes Boulevard Circulation Element General Plan Amendment (GPA 19-2502) is located on the existing Sun Lakes Boulevard, an unpaved road running in an east-west direction between the intersections of South Highland Home Road to the west and Sunset Avenue to the east, in the City of Banning (City), County of Riverside, California, 92220. The Project site is relatively flat and is planned to be approximately 5,390 linear feet and encompass approximately 13.3 acres.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

____	Air Resources Board	____	Office of Historic Preservation
____	Boating & Waterways, Department of	____	Office of Public School Construction
____	California Emergency Management Agency	____	Parks & Recreation, Department of
____	California Highway Patrol	____	Pesticide Regulation, Department of
S	Caltrans District # 8	____	Public Utilities Commission
____	Caltrans Division of Aeronautics	S	Regional WQCB # 7
____	Caltrans Planning	____	Resources Agency
____	Central Valley Flood Protection Board	____	Resources Recycling and Recovery, Department of
____	Coachella Valley Mtns. Conservancy	____	S.F. Bay Conservation & Development Comm.
____	Coastal Commission	____	San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
S	Colorado River Board	____	San Joaquin River Conservancy
____	Conservation, Department of	____	Santa Monica Mtns. Conservancy
____	Corrections, Department of	____	State Lands Commission
____	Delta Protection Commission	____	SWRCB: Clean Water Grants
____	Education, Department of	____	SWRCB: Water Quality
____	Energy Commission	____	SWRCB: Water Rights
S	Fish & Game Region # 6	____	Tahoe Regional Planning Agency
____	Food & Agriculture, Department of	____	Toxic Substances Control, Department of
____	Forestry and Fire Protection, Department of	____	Water Resources, Department of
____	General Services, Department of		
____	Health Services, Department of	S	Other: South Coast Air Quality Management District
____	Housing & Community Development	____	Other:
____	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date January 17, 2020 Ending Date February 5, 2020

Lead Agency (Complete if applicable):

Consulting Firm:	Applicant:
Address:	Address:
City/State/Zip:	City/State/Zip:
Contact:	Phone:
Phone:	

Signature of Lead Agency Representative: _____ **Date:** 1/17/2020

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

INITIAL STUDY/NEGATIVE DECLARATION

FOR

Sun Lakes Boulevard Circulation Element General Plan Amendment GPA 19-2502

Prepared for:

City of Banning
99 E. Ramsey Street
Banning, CA 92220
Contact: Adam Rush, Community Development Director
(951) 922-3131

Prepared by:

Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506
Contact: Cynthia Gibbs, PMP, Senior Environmental Analyst
(951) 320-6057

January 2020

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APPENDICES

ENVIRONMENTAL CHECKLIST FORM

1. **Project title:** Sun Lakes Boulevard Circulation Element General Plan Amendment (GPA 19-2502) (Project)

2. **Lead Agency:**
   City of Banning
   99 E. Ramsey Street
   Banning, CA 92220
   (951) 922-3131

3. **Contact Person**:
   Adam Rush
   Community Development Director
   arush@banningca.gov
   (951) 922-3131

4. **Project Location:** The Project location is in the western portion of the City of Banning, south of Interstate 10 (I-10) generally along a paved dirt right-of-way for Sun Lakes Boulevard/Westward Avenue which runs in an east/west direction (the remainder of this document will refer to the Project roadway as "Sun Lakes Boulevard"). The Project area is between the intersections of South Highland Home Road to the west and Sunset Avenue to the east, Banning CA 92220. Assessor Parcel Numbers: 537-110-007, 537-110-008, 537-110-009, and 537-110-010. The site is at an elevation of approximately 2,500 feet above sea level. See **Figure 1 – Regional Map** and **Figure 2 – Project Vicinity**.

5. **Project Sponsor:**
   Public Works Department
   City of Banning
   99 E. Ramsey Street
   Banning, CA 92220
   (951) 922-3130

6. **General Plan Designation:** The Project site is within Right-of-way an existing road right-of-way; directly adjacent land use designations include City of Banning (City) Land Use Designations: Medium Density Residential (MDR), Open Space-Parks (OS-PA), Open Space – Resources (OS-R), Low Density Residential (LDR), High Density Residential 20 (HDR-20), Very Low Density Residential (VLDR), and a Specific Plan overlay to the west of the Project site. Land under the jurisdiction of the County of Riverside is adjacent to the south of the Project site, and its land use designation is LDR. See **Figure 3 – General Plan Land Use Designations.**

7. **Zoning:** The Project site is within an existing road right-of-way; directly adjacent zoning is under the City's jurisdiction to the west, north, and east. The City's zoning is the same as its land use designations, listed above. Land under the jurisdiction of the County of Riverside is adjacent to the south of the Project site, and its zoning designation is Light Agriculture (A-1-10). See **Figure 4 – Zoning Designations.**

8. **Project Description:**
The proposed Sun Lakes Boulevard Circulation Element General Plan Amendment (GPA 19-2502) (herein after "Project" or "proposed Project") is located on the existing Sun Lakes Boulevard, an unpaved road running in an east-west direction between the intersections of South Highland Home Road to the west and Sunset Avenue to the east, in the City of Banning (City), County of Riverside, California, 92220. The Project site is relatively flat and is planned to be approximately 5,390 linear feet and encompass approximately 13.3 acres. (see **Figure 2** and **Figure 5 – USGS Map**)

The proposed Project involves amending the City's current GP Circulation Element (GP Amendment No. 16-2501, Resolution No. 2017-07) to modify the alignment of Sun Lakes Boulevard; this road is identified as a Major or Arterial Highway in the GP and will remain as such. The GP currently depicts Sun Lakes Boulevard as an "s" curve connecting from Highland Home Road to West Lincoln Street as shown on **Figure 6 – General Plan Circulation Element**. The Project would revise the GP Circulation Element to realign Sun Lakes Boulevard as a mostly straight, east-west road between its intersections with South Highland Home Road on the west side and Sunset Avenue on the eastern side of the Project (east of Sunset Avenue, Sun Lakes Boulevard becomes West Westward Avenue). The proposed road follows the existing right-of-way (ROW) between Sunset Avenue and South Highland Home Road; two portions of the proposed road slightly curve to the north and then back to the existing paved dirt road as shown in **Figure 2**.

The Project realignment is only within the Circulation Element of the GP and no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue, including associated drainage and street light improvements as a Major or Arterial Highway. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study.

9. **Surrounding Land Uses and Setting:**
The adjacent area to the north and south of the Project is primarily vacant and undeveloped. Adjacent to the road are existing utilities that include three well sites and one wastewater lift station. To the west of the Project site are single-family homes (primarily a retirement community). To the east of the Project site are single-family homes, a small number of commercial shops, the Mt. San Jacinto College San Gorgonio Pass Campus, and vacant land.

10. **Other Public Agency Approval Required**
Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):
- None

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resource Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance to tribal cultural resources, procedures regarding confidentiality, etc.?**
To help determine whether a project may have an impact on tribal cultural resources, Public Resource Code section 21080.3.1 requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. That consultation must take place prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project.

The City, as lead agency, is also required to coordinate with Native American Tribes through the Assembly Bill 52 (AB 52) consultation process and Senate Bill 18 (SB 18) for the GP Amendment.

SB 18, effective September 2004, requires local government to notify and consult with California Native American tribes when the local government is considering adoption or amendment of a general or specific plan. Pursuant to Government Code §65352.3, prior to adoption or any amendment to a General Plan, proposed on or after March 1, 2005, the city or county shall conduct consultations with California Native American tribes for the purpose of preserving or mitigating impacts to Cultural Places. The tribe(s) has 90 days from when the tribe is contacted by the city or county in which to request a consultation.

AB 52, effective July 2015, Section 1 of the bill states the legislature's intent as follows: In recognition of California Native American tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American tribal governments, and respecting the interests and roles of project proponents, it is the intent of the Legislature, in enacting this act, to accomplish all of the following:

- Recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities.
- Establish a new category of resources in the California Environmental Quality Act called "tribal cultural resources" that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation.
- Establish examples of mitigation measures for tribal cultural resources that uphold the existing mitigation preference for historical and archaeological resources of preservation in place, if feasible.
- Recognize that California Native American tribes may have expertise regarding their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated. Because the California Environmental Quality Act calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources.
- In recognition of their governmental status, establish a meaningful consultation process between California Native American tribal governments and lead agencies, respecting the interests and roles of all California Native American tribes and project proponents, and the level of required confidentiality concerning tribal cultural resources, at the earliest possible point in the California Environmental Quality Act environmental review process, so that tribal cultural resources can be Discussion Draft Technical Advisory: AB 52 and Tribal Cultural Resources in CEQA.

As a result of AB 52, the following must take place: 1) prescribed notification and response timelines; 2) consultation on alternatives, resource identification, significance determinations, impact evaluation, and mitigation measures; and 3) documentation of all consultation efforts to support CEQA findings. Under AB 52, if a lead agency determines that a project may cause a substantial adverse change to a Tribal Cultural Resource, the lead agency must consider measures to mitigate that impact.

On July 3, 2019, the City of Banning notified local tribal governments in writing of the proposed Project pursuant to AB 52 pertaining to tribal cultural resources consultation; the City also sent separate notification to local tribes pursuant to SB 18 on July 3, 2019. The consultation process is discussed in Section XVIII of this Initial Study.

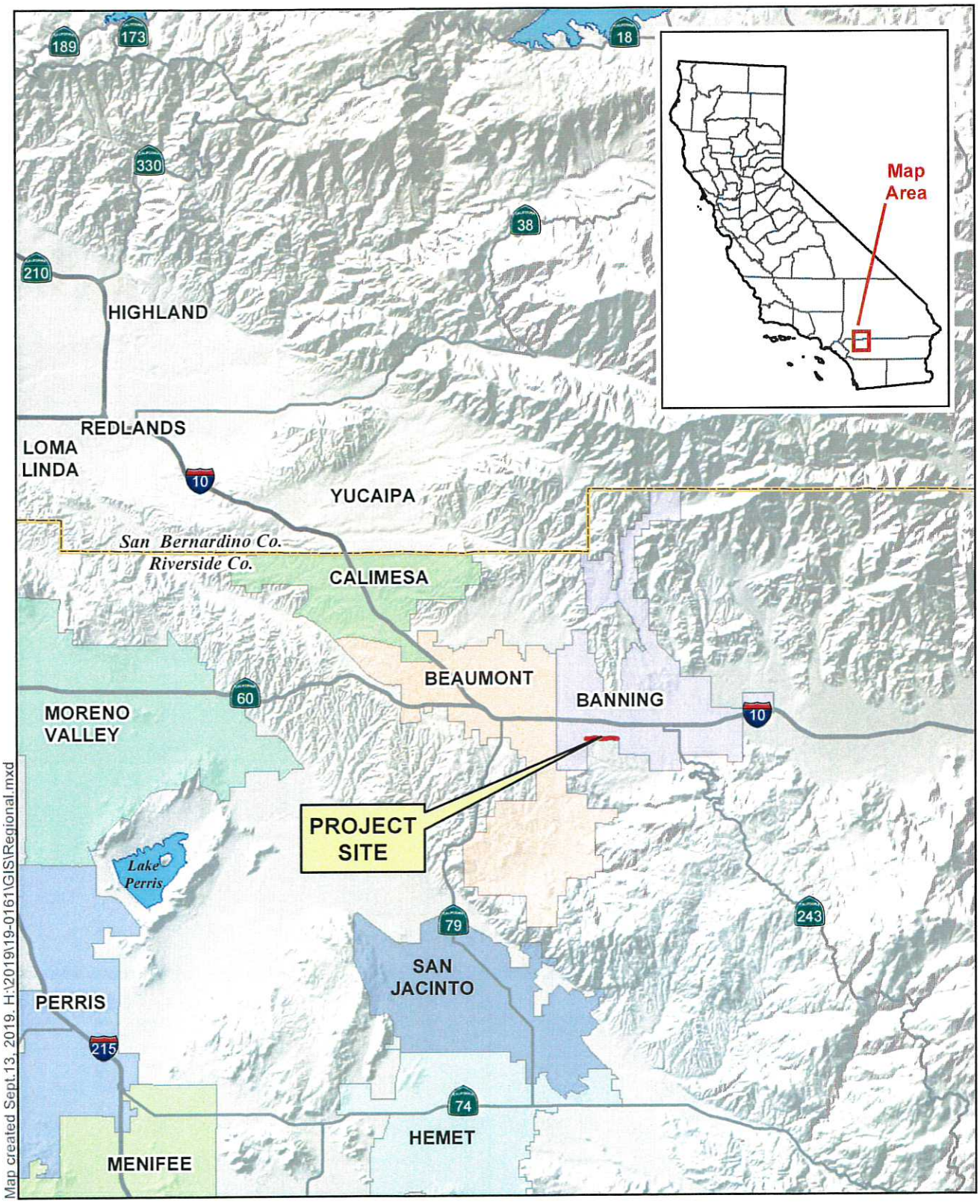
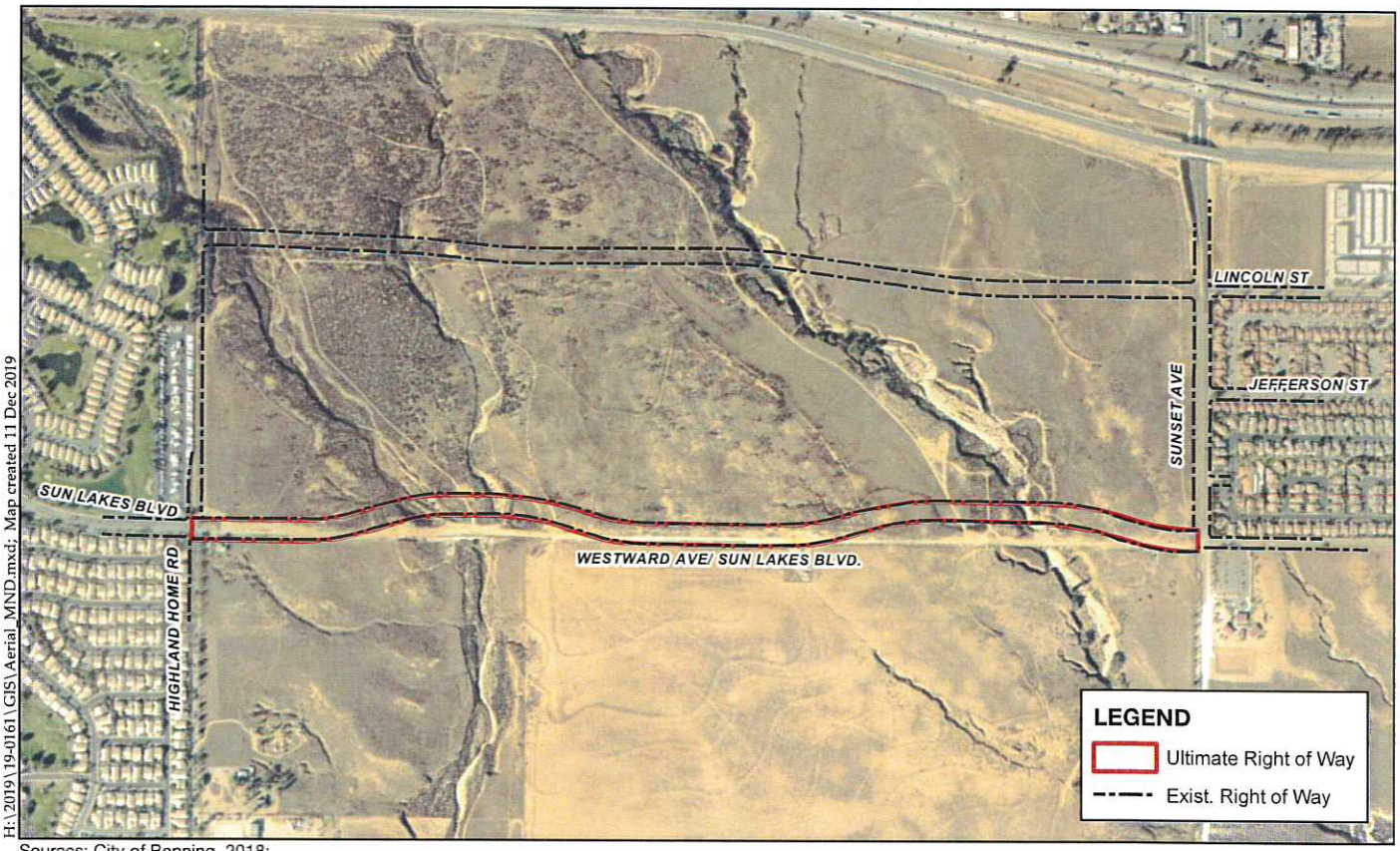


Figure 1 – Regional Map

Sun Lakes Blvd. Circulation Element
General Plan Amendment

0 2 4 6 Miles

ALBERT A. WEBB ASSOCIATES



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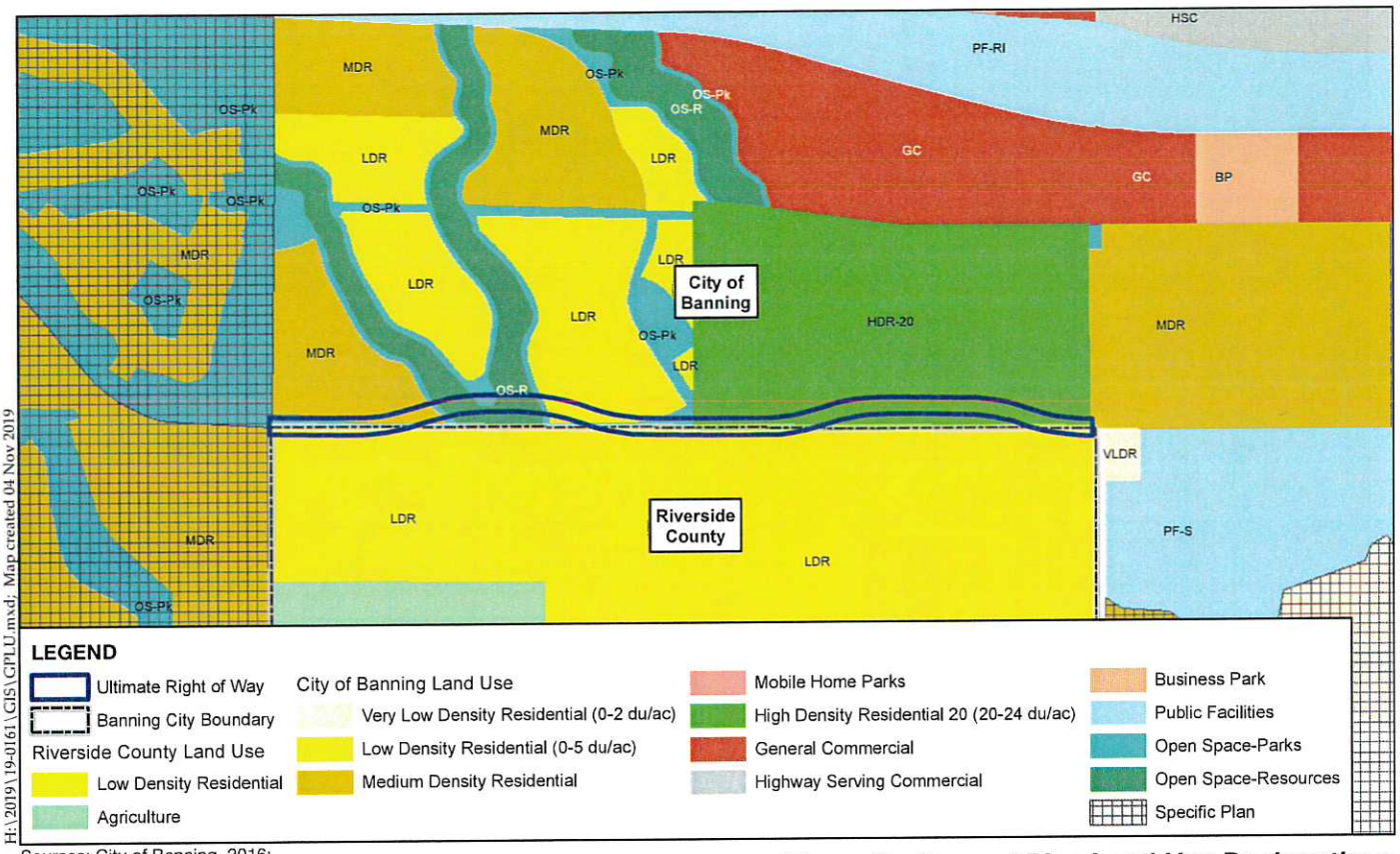
Sources: City of Banning, 2018;
Riverside Co. GIS, 2019.

0 500 1,000 1,500 2,000 Feet

Figure 2 - Project Vicinity

Sun Lakes Blvd. Circulation Element
General Plan Amendment

ALBERT A. WEBB ASSOCIATES



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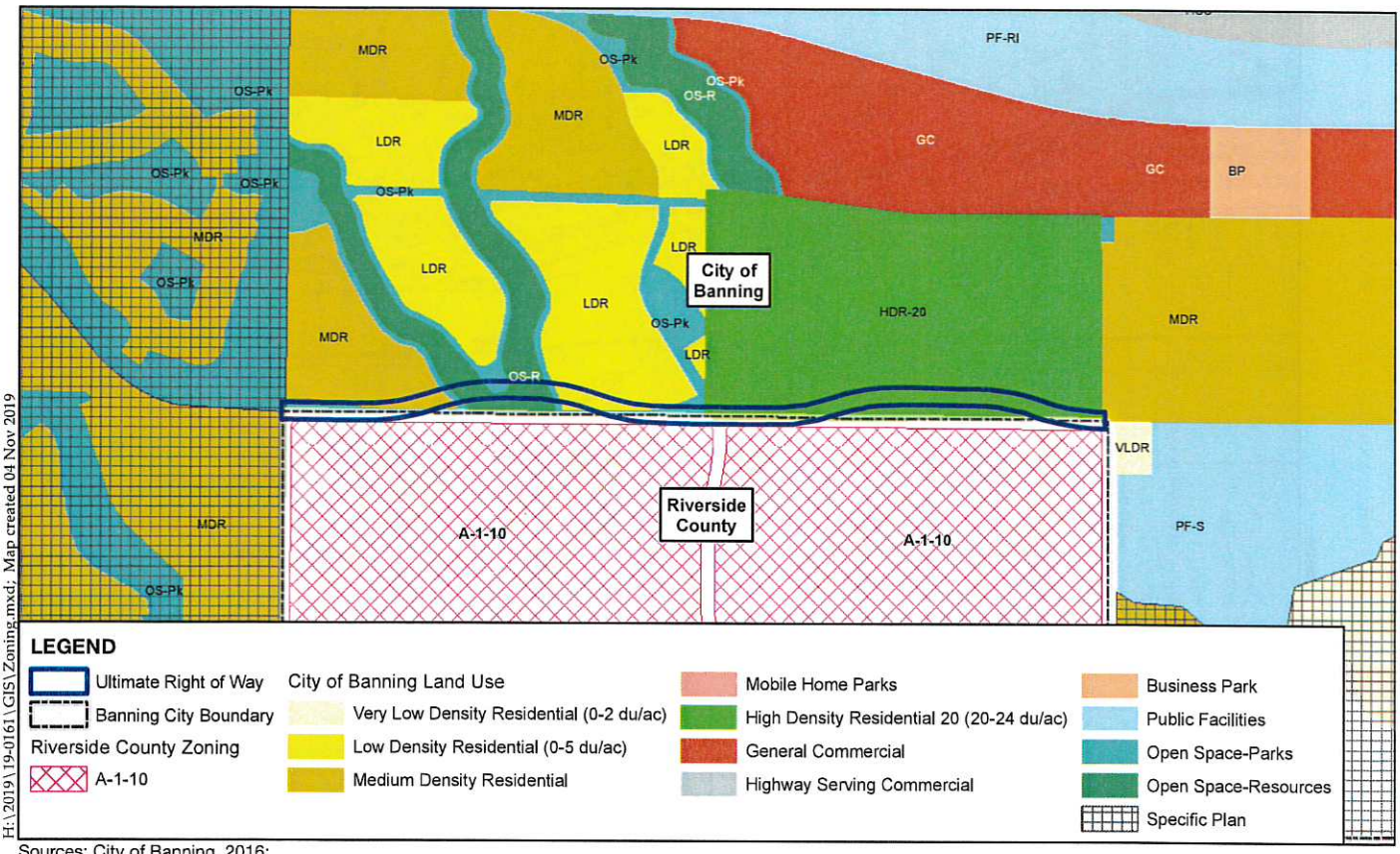
Sources: City of Banning, 2016; Riverside Co. GIS, 2019.

0 500 1,000 1,500 2,000 Feet

Figure 3 - General Plan Land Use Designations

Sun Lakes Blvd. Circulation Element
General Plan Amendment

ALBERT A. WEBB ASSOCIATES



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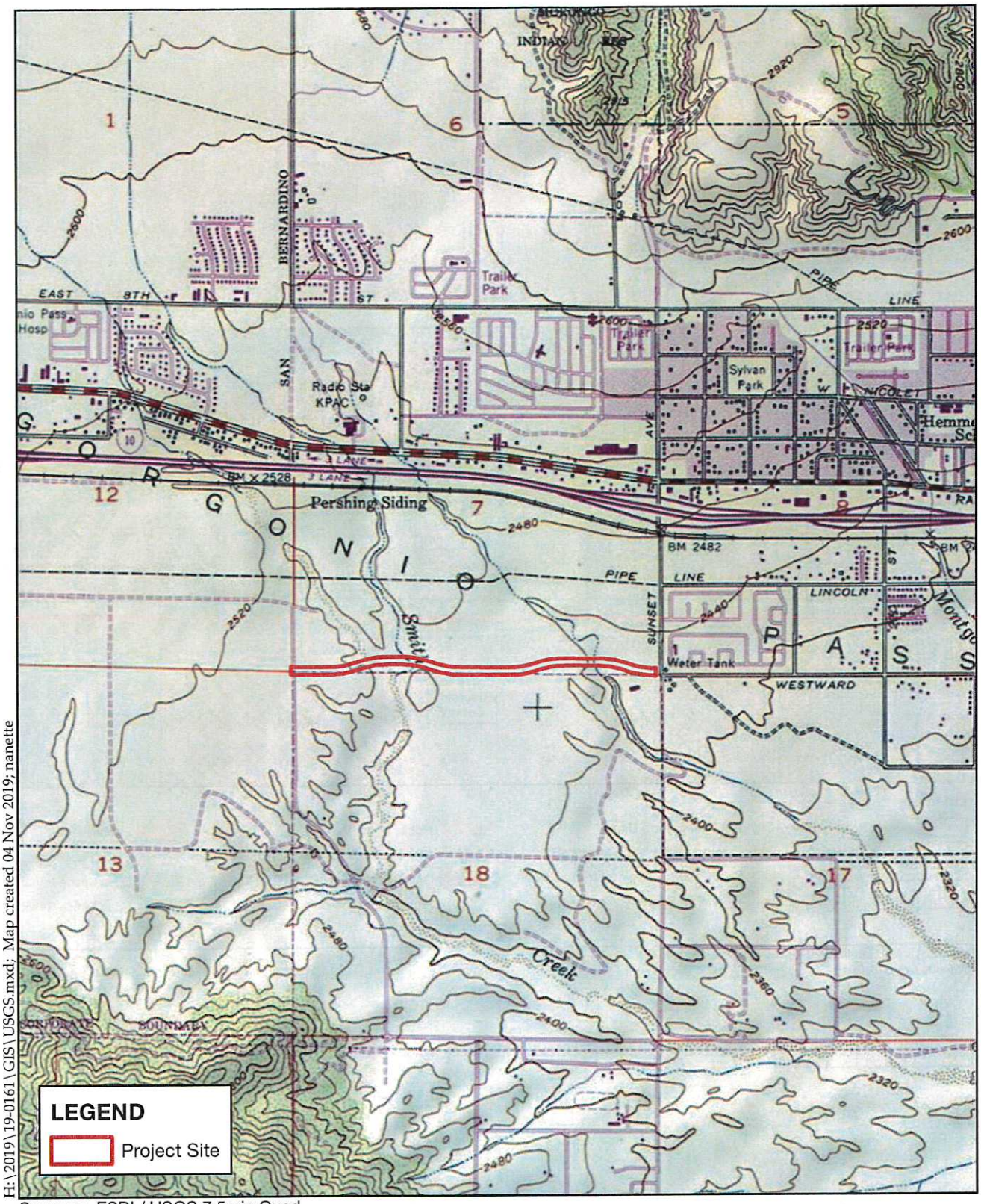
Sources: City of Banning, 2016;
Riverside Co. GIS, 2019.

0 500 1,000 1,500 2,000 Feet

Figure 4 - Zoning Designations

Sun Lakes Blvd. Circulation Element
General Plan Amendment

ALBERT A. WEBB ASSOCIATES



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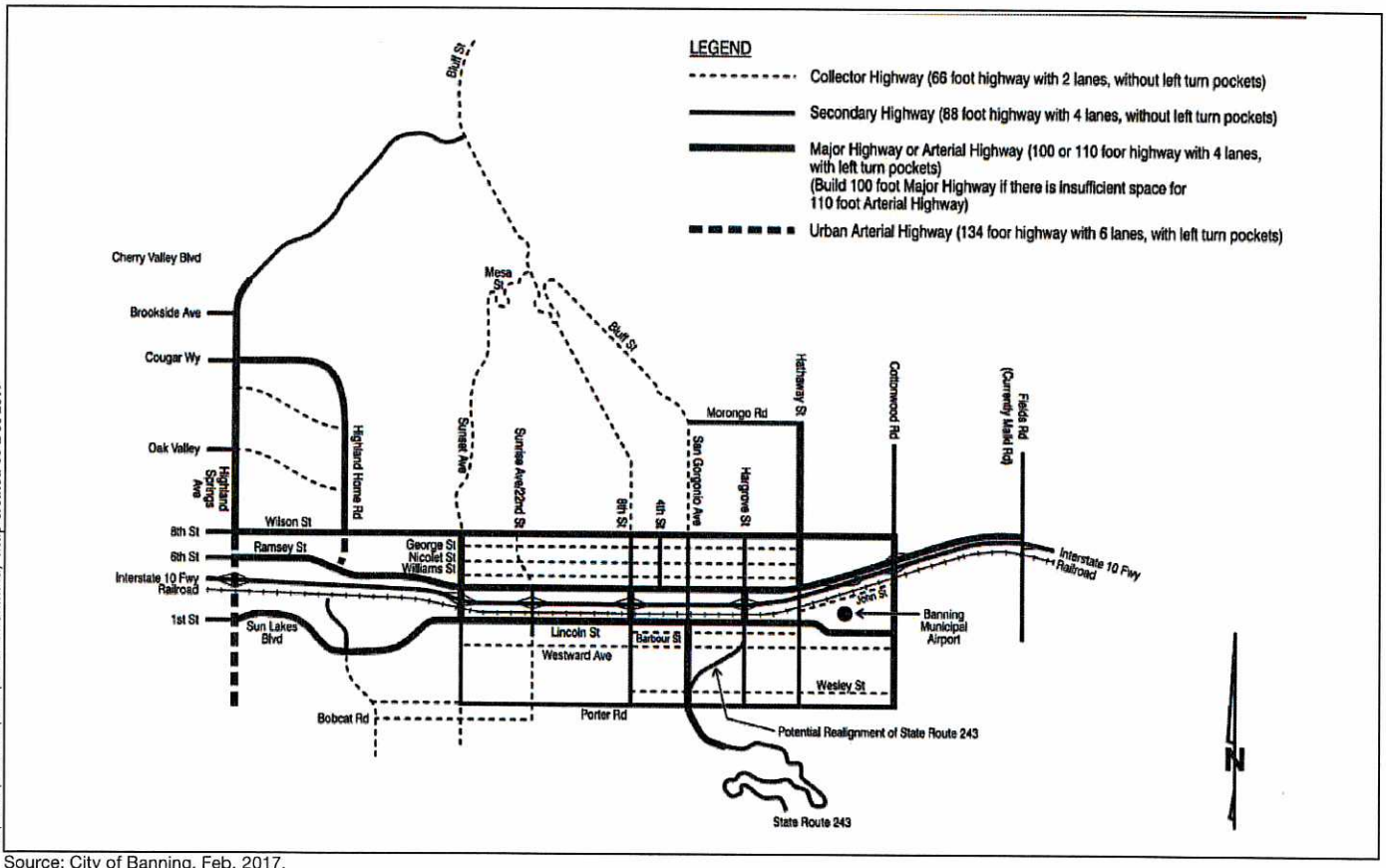
Sources: ESRI / USGS 7.5min Quad
DRG: BEAUMONT

0 1,000 2,000 3,000 Feet

Figure 5 - USGS Map

Sun Lakes Blvd. Circulation Element
General Plan Amendment

ALBERT A. WEBB ASSOCIATES



H:\2019\19-0161\GIS\Circulation.mxd; Map created 11 Dec 2019

Source: City of Banning, Feb. 2017.

Not to Scale

Figure 6 - General Plan Circulation Element

Sun Lakes Blvd. Circulation Element General Plan Amendment

ALBERT A. WEBB ASSOCIATES

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages:

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that 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.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that 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.

☐ I find that 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 January 14, 2020

Adam Rush,
Printed Name

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) 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 projects like the one involved *(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)*.

2) 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.

3) Once the lead agency has determined that a particular physical impact may occur, then 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.

4) "Negative Declaration: 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." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, 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 Analysis Used.** Identify and state where they are available for review.
    b. **Impacts Adequately Addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. **Mitigation Measures.** For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts *(e.g., general plans, zoning ordinances)*. Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

    a. the significance criteria or threshold, if any, used to evaluate each question; and
    b. the mitigation measure identified, if any, to reduce the impact to less than significant.

ENVIRONMENTAL FACTORS: ENVIRONMENTAL CHECKLIST	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c. 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?	☐	☐	☐	☒
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Aesthetics Discussion:

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

The City of Banning (City) defines visual resources as those physical features that enhance the City's aesthetic and scenic character. The majority of the City is located within the narrow east-west trending valley of the San Gorgonio Pass, which is dominated by the San Bernardino Mountains along the northern end of the valley and the San Jacinto Mountains along the southern end of the valley (GP DEIR, p. III-189). These mountain ranges present impressive viewsheds and dramatic scenery, including frequently snow-covered mountain peaks and ranges with rugged slopes.

The Project consists of a General Plan Amendment within the Circulation Element of the GP; this revision to the Circulation Element will match Sun Lakes Boulevard's alignment within the current right-of-way. No implementing project is proposed at this time; therefore, the Project will not change the views as they currently exist. The Project will have **no impact**.

Source: GP DEIR

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

A portion of State Highway 243 is designated as a state scenic highway where it occurs in the City's southern Sphere of Influence; however, the City's GP Draft Environmental Impact Report (DEIR) determined that development pursuant to the City's GP would have a limited impact to viewsheds along this corridor (GP DEIR, p. III-190).

The Project consists of a General Plan Amendment within the Circulation Element of the GP; this revision to the Circulation Element will match Sun Lakes Boulevard's alignment within the current right-of-way. No implementing project is proposed at this time; therefore, the Project will not physically affect scenic resources in any way, including trees, rock outcroppings, and historic buildings within a state scenic highway. The Project will have **no impact**.

Source: GP DEIR

c) ***In non-urbanized 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?***

To be conservative, impacts to both urbanized and non-urbanized areas have been analyzed. The Project realignment is only within the Circulation Element of the City's GP; this revision to the Circulation Element will match Sun Lakes Boulevard's alignment within the current right-of-way. No implementing Project is proposed at this time; therefore, the Project will not physically affect the existing visual character or quality of public views of the site and its surroundings. Since there is no physical project, there are no zoning or other regulations governing scenic quality that apply to the proposed Project; therefore, the project will not conflict with applicable zoning or other regulations governing scenic quality, and there is **no impact**.

Source: Project Description

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

Glare is typically associated with installation of windows and other reflective surfaces; however, the Project consists of an amendment to the City's GP Circulation Element and does not include an implementing project. Thus, no new sources of light or glare will be created by the Project, and there is **no impact**.

Source: Project Description

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
II. AGRICULTURAL and FORESTRY RESOURCES. 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 Department 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. 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?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
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))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. 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?	☐	☐	☐	☒

Agricultural Resources 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 non-agricultural use?

The proposed Project is not located within areas of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. According to the California Department of Conservation *Farmland Mapping and Monitoring Program* (FMMP), the Project site consists of and is adjacent to Farmland of Local Importance and Grazing Land, and has Urban and Built-Up Land directly adjacent on the east and west. Thus, the proposed Project will not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, **no impact** is anticipated.

Source: FMMP

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

The proposed Project is not located within a Williamson Act contract; the land south of Westward Avenue near the Project site that is under a Williamson Act contract is either in non-renewal status or is not considered prime agricultural farmland. As of 2004, there were three Williamson Act contracts in effect over

approximately 3,500 acres within the City's GP planning area. These include lands located in the City limits near the Banning Bench, in the northwest portion of the planning area between Highland Springs Avenue and Highland Home Road, and in the City's southerly sphere of influence south of Westward Avenue (GP, p. IV-22). These lands are being phased out due to urbanization, although residential land uses that allow for agricultural and ranching activities are provided for under the GP (GP DEIR, p. III-11). Per **Figure 4**, Riverside County zones the land south of the Project site as A-1-10, which is defined as Light Agriculture (RCZO, p. XIII-1). However, the City land use and zoning designations for that area is LDR, and there are no agricultural zoning/land use designations adjacent to the Project site (see **Figure 3**). Since the Project is an amendment to the City's GP Circulation Element and does not include an implementing project, it will not encroach on this Williamson Act land or change a land use in the vicinity of a Williamson Act contract. Therefore, there is **no impact.**

Sources: GP; GP DEIR; RCZO

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))?

The proposed Project site is within the City of Banning which does not have a zoning designation for forest land, timberland, or timberland zoned Timberland Production within City limits. Therefore, there is **no impact**.

Source: GP

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

The proposed Project site is within the City of Banning which does not have a zoning designation for forest land, timberland, or timberland zoned Timberland Production within City limits. Since the Project is within the existing road right-of-way, it will not encroach on the surrounding vacant land. Therefore, there is **no impact**.

Source: GP

e) 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?

The proposed Project is amending the City's GP Circulation Element to realign an existing road within its already existing right-of-way, and will not encroach on the surrounding land uses or change any land use. According to the California Department of Conservation *Farmland Mapping and Monitoring Program* (FMMP), the Project site consists of and is adjacent to Farmland of Local Importance and Grazing Land, and has Urban and Built-Up Land directly adjacent on the east and west. Additionally, the City's GP does not identify any forest land uses within the City's limits. Thus, the Project will not result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Therefore, there is **no impact**.

Sources: FMMP; GP

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district 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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

Air Quality Discussion:

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

The City of Banning is in the South Coast Air Basin (Basin). The South Coast Air Quality Management District (SCAQMD) prepares the Air Quality Management Plan (AQMP) for the Basin. The AQMD sets forth a comprehensive program that will lead the Basin into compliance with all federal and state air quality standards (SCAQMD 2016, pp. ES-1 and 1-4). The control measures and related emission reduction estimates included in the AQMP are based on emissions projections for a future development scenario derived from land use, population, and employment estimates defined in consultation with local governments. To do this, the AQMP utilizes the population and growth estimates compiled by the Southern California Association of Governments (SCAG) in their 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAQMD 2016, pp. 4-41 – 4-42). SCAG's population and employment projections for the City are based on the City's growth projections (SCAG RTP/SCS, p. 70), which are outlined in the GP. Thus, since the 2016 AQMP is consistent with the 2016 RTP/SCS, the 2016 AQMP is also consistent with the growth assumptions in the GP. Accordingly, if a project demonstrates compliance with local land use plans and/or population projections, then the AQMP would have taken into account such uses when it was developed, and the project would not conflict with implementation of such a plan.

The proposed Project is an amendment to the City's GP Circulation Element (GP Amendment No. 16-2501, Resolution No. 2017-07) to revise Sun Lake Boulevard's alignment to match the current right-of-way. As such, the proposed Project will not conflict with any land use plan. Additionally, there is no implementing project included in the proposed Project, and thus the Project will not cause an increase (or any change) in population. Thus, the proposed Project is consistent with the AQMP. Therefore, impacts will be **less than significant**.

Sources: Resolution 2017-07; SCAG RTP/SCS; SCAQMD 2016

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?

The Project consists of a General Plan Amendment within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and

Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, there are no pollutant emissions associated with the Project. The Project will not 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, and therefore the Project has **no impact**.

Source: Project Description

c) Expose sensitive receptors to substantial pollutant concentrations?

As detailed in the previous threshold (Item III.b), since there is no construction or operation included in the proposed Project, there are no pollutant emissions associated with the Project. The Project will not expose sensitive receptors to substantial pollutant concentrations because the Project has no air pollutant emissions, and therefore the Project has **no impact**.

Source: Project Description

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

The proposed Project does not present any potential for generation of objectionable odors, because the Project does not include any physical impacts. As detailed in the previous threshold (Item III.b), there is no construction or operation included in the proposed Project because the Project is an amendment to the GP and does not include an implementing project. Without construction or operation, the Project has no potential sources for any emissions, including those leading to odors, that could affect a substantial number of people. Therefore, the Project has **no impact**.

Source: Project Description

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
IV. BIOLOGICAL RESOURCES. 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 Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
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 Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Biological Resource Discussion:

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?

A *Western Riverside County MSHCP Consistency Report* dated December 11, 2019 was prepared by Wood (WOOD) and included in Appendix A to this Initial Study. The report prepared for the MHSCP consistency was a desktop review; there was not a site visit conducted for this Project. The site is currently undeveloped, with no existing structures and most of the vegetation is non-native grassland. The Project site is located within the MSHCP designated Narrow Endemic Plant Species Survey Area (NEPSSA) for three species: San Diego Ambrosia (*Ambrosia pumila*), Brand's Phacelia (*Phacelia stellaris*), and San Miguel savory (*Satureja chandleri*); however, these species have not been recorded within a three-mile radius (WOOD, p. 2).

The MSHCP Conservation Summary Generator indicates that the project area does not require Critical Area Plant Species, Sensitive Mammals Surveys or Sensitive Amphibian survey (WOOD, p. 2). The project site is not located within any United States Fish and Wildlife Service (USFWS) designated Critical Habitat for any species. The non-native grasslands and the few large trees and shrubs located on and/or immediately adjacent to the Project site provide suitable nesting habitat for raptors, common ravens, and various songbirds protected by the Migratory Bird Treaty Act (MBTA).

The Project area lies within the MSHCP survey area for two species classified as a California Species of Special Concern the burrowing owl (*Athene cunicularia*) and the Los Angeles pocket mouse (*Perognathus longimembris*) (LAPM). The burrowing owl is protected by the MBTA and CFG Code Section 3503. Based on the vegetation mapping of this area by the Riverside Conservation Agency (RCA), the on-site grassland habitat is suitable to be potential habitat for the LAPM and burrowing owl.

Based on the existing conditions of biological resources on and near the Project site, additional studies and mitigation may be necessary before construction and operation of a project occurs on the proposed Project site. However, the Project consists of a General Plan Amendment within the Circulation Element of the GP; no implementing project is proposed at this time. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact (construction or operation) included in the proposed Project, there are no physical impacts on any species or habitat. The Project would not 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. Therefore, the Project has **no impact**.

Source: WOOD

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?

According to Wood's *MSHCP Consistency Report*, no riparian/riverine areas or vernal pools were documented on the Project site or the immediate vicinity and vegetation is primarily non-native grassland (WOOD, p. 7). The Project consists of a General Plan Amendment within the Circulation Element of the GP; no implementing project is proposed at this time. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. The Project would not 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 because there are no riparian/riverine areas or vernal pools documented on site. Therefore, the Project has **no impact**.

Source: WOOD

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?

According to the USACE Wetlands Delineation Manual, Technical Report, three criteria must be satisfied to classify an area as a jurisdictional wetland: 1) A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); 2) Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and 3) Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology). Further, wetland vegetation is characterized by vegetation in which more than 50 percent of the composition of dominant plant species are obligate wetland, facultative wetland, and/or facultative species that occur in wetlands. The Project site has potential for riparian/riverine areas and/or jurisdictional water features because there are three drainage features along the Project that are confluence features of Smith Creek (WOOD, p. 16).

The Project consists of a General Plan Amendment within the Circulation Element of the GP; no implementing project is proposed at this time. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact (construction

or operation) included in the proposed Project, there are no physical impacts on any wetlands. The Project would not 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. Therefore, the Project has **no impact**.

Source: WOOD

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?

The Project site was assessed to determine if a wildlife corridor occurs on or within a portion of the Project site. The Project site does not lie within any designated MSHCP core linkages or proposed linkages; the closest Core Linkage is two miles southwest of the Project site (WOOD, pp. 3, 17). The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact (construction or operation) included in the proposed Project, there are no physical impacts on any wildlife. The Project would 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. Therefore, the Project has **no impact**.

Source: WOOD

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

There are no large trees are located on the Project site. The Project consists of a General Plan Amendment within the Circulation Element of the GP; no implementing project is proposed at this time. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact (construction or operation) included in the proposed Project, there are no physical impacts on any biological resources, including trees. The Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Therefore, the Project has **no impact**.

Source: Project Description

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?

According to the biological resources report prepared by WOOD, the Project site does not lie within and is not adjacent to any MSHCP Conservation Areas. Therefore, no Habitat Evaluation and Acquisition Negotiation Strategy (HANS) or Joint Project Review (JPR) are required. The nearest proposed Core Linkage is approximately two miles southwest of the Project site. Thus, the Project will not require design features to minimize potential impacts associated with the Urban/Wildlands interface (WOOD, p. 17). The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact (construction or operation) included in the proposed Project, there are no conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the Project has **no impact**.

Source: Project Description

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
V. CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5?	☐	☐	☐	☒
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

Cultural Resource Discussion:

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

A *Cultural Resource Constraints Analysis* (AE-A) dated November 6, 2019 was prepared by Applied Earthworks (AE) for this Project and included in Appendix B. As part of this assessment, a cultural resource literature and records search was conducted at the Eastern Information Center (EIC) at the University of California, Riverside, indicating that 44 cultural resources have been identified within a one-half mile radius of the Project site. The vast majority (36) of these resources are built environment resources that consist of historical houses, commercial buildings, and a segment of the Union Pacific Railroad. The remaining eight resources are archaeological resources that date to the historic period. These resources are: one isolated concrete chute remnant, three water-conveyance systems, two refuse scatters, foundations, and a segment of the old Banning Trade Route/6th Street (AE-A, p. 1).

One of these historic archeological resources, CA-RIV-7544, and one built environment resource, 33-013778, are on the Project site. CA-RIV-7544 is a large historic water-control complex consisting of 36 features. Some of these features are located within the Project site. CA-RIV-7544 was formally evaluated in a prior cultural resource investigation and recommended as ineligible for listing on the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR). Built environment resource 33-013778 is a large farm/ranch complex, which includes five foundations, two Craftsman structures and a barn. As documented in a prior cultural resource investigation, the five foundations are located on the western-most portion of 33-013778, which is within the Project site. The remaining resources, including the Craftsman structures and the barn, are located outside of the Project site. The portion of built environment resource 33-013778 within the Project site has been evaluated formally for listing on the CRHR and NRHP; it was recommended ineligible for nomination to the NRHP and CRHR in a prior cultural resource investigation (AE-A, pp. 3-4).

In addition to the EIC research, AE also consulted the 1901 San Jacinto 30-minute USGS topographic quadrangle map, the 1943 and 1956 Banning 15-minute USGS topographic quadrangle maps, and the 1953 Beaumont 7.5-minute USGS topographic quadrangle map to assess historical land uses within a one-half mile radius of the Project site. The 1953 Beaumont 7.5-minute USGS topographic quadrangle map exhibits two houses and outbuildings outside the Project site to the south on the corner of Sunset Avenue and Westward Avenue. The same structures are also on the 1956 Banning 15-minute USGS topographic quadrangle map. No structures, roads, or other features of historical interest are shown within, or in the vicinity of, the Project site on any of the reviewed historical maps (AE-A, pp. 4-5).

In conclusion, only two historic cultural resources were found on the Project site, historical archeological site CA-RIV-7544 and built environment resource 33-013778. Since both resources were previously evaluated in cultural resource investigations and the portions of the resources within the Project site were recommended as ineligible for listing on the NRHP and CRHR, no historic properties (NRHP-eligible) or historical resources

(CRHR-eligible) are present. No prehistoric cultural resources are documented within a one-half mile radius of the Project site.

In addition, the Project consists of a General Plan Amendment within the Circulation Element of the GP; no implementing project is proposed at this time. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact of the proposed Project, the Project will not cause any change (include adverse change) to any cultural resource, including in the significance of a historical resource pursuant to §15064.5. Therefore, the Project has **no impact**.

Source: AE-A

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

As discussed in Threshold V.a above, AE conducted a *Cultural Resource Constraints Analysis* (AE-A) which found that no prehistoric cultural resources are documented within a one-half mile radius of the Project site. Two historic cultural resources were found on the Project site, historical archeological site CA-RIV-7544 and built environment resource 33-013778. Since both resources were previously evaluated in cultural resource investigations and (the portions of the resources within the Project site) recommended as ineligible for listing on the NRHP and CRHR, no historic properties (NRHP-eligible) or historical resources (CRHR-eligible) are present (AE-A, pp. 1 and 5).

AE contacted the Native American Heritage Commission (NAHC) on September 13, 2019, for a review of the Sacred Lands File (SLF) to determine if any known Native American cultural properties (e.g., traditional use or gathering areas, places of religious or sacred activity) are present within or adjacent to the Project site. The NAHC responded on September 24, 2019, stating the SLF search was completed with negative results. The NAHC provided a list of Native American individuals and organizations for follow-up to elicit information and/or concerns regarding potential cultural resource issues related to the Project (AE-A, p. 5). Tribal outreach was conducted by the City of Banning through AB 52 and SB 18 consultation, which is discussed in the Tribal Cultural Resources section of this Initial Study.

The Project consists of a General Plan Amendment within the Circulation Element of the GP; no implementing project is proposed at this time. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact of the proposed Project, the Project will not cause any change (include adverse change) to any cultural resource, including in the significance of an archeological resource pursuant to §15064.5. Therefore, the Project has **no impact**.

Source: AE-A

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

The proposed Project site is not located on any known cemetery. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact of the proposed Project, and it is not located on any known cemetery, the Project will not disturb any human remains, including those interred outside of dedicated cemeteries. Therefore, the Project has **no impact.**

Source: Project Description

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
VI. ENERGY. Would the project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Energy Discussion:

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

The Project consists of a General Plan Amendment within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include the implementation of an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, there are no consumption of energy associated with the Project. The Project will not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation, and therefore the Project has **no impact**.

Source: Project Description

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

The proposed Project would be required to comply with City, state and federal energy conservation measures related to construction and operations; however, as discussed above in Item VI.a, the proposed Project does not include any implementing project, and thus does not include any construction or operation. Therefore, the Project will not conflict with or obstruct a state or local for renewable energy or energy efficiency, and the Project has **no impact**.

Source: Project Description

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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:				
i. 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.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☐	☒
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Geology and Soils Discussion:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) 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.

The Banning area is located at the boundary, formed by the San Andreas Fault, between the North American and Pacific plates crosses the Banning GP planning area (GP, p. V-10). The closest fault to the Project site is located along the San Andreas Fault Zone approximately six miles to the north of the Project site (a Riverside County Fault within a Riverside County Fault Zone is in the City of Beaumont approximately 2.4 miles to the southwest) (RCLIS). There are no other faults within or immediately adjacent to the Project site that could rupture during an earthquake (GP, Exhibit V-3; GP DEIR, Exhibit III-13).

The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will

not be analyzed in this Initial Study. Thus, since there is no construction or operation (physical impacts) included in the proposed Project, it would not directly or indirectly cause 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. Therefore, the Project has **no impact**.

Source: GP; GP DEIR; RCLIS

ii) Strong seismic ground shaking?

Given its physical and geologic location, the Banning area is susceptible to potential intense seismic ground shaking that could affect the safety and welfare of the general community. The effects of ground motion on structures are difficult to predict, and depend on the intensity of the quake, the distance from the epicenter to the site, the composition of soils and bedrock, building design, and other physical criteria (GP DEIR, p. III-74).

The Project consists of a General Plan Amendment within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation (physical impacts) included in the proposed Project, it would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Therefore, the Project has **no impact**.

Source: GP DEIR

iii) Seismic-related ground failure, including liquefaction?

Liquefaction commonly occurs in loose, saturated, sandy sediments that are subject to ground vibrations greater than 0.2 g (peak ground acceleration). When liquefaction occurs, the sediments behave like a liquid or semi-viscous substance and can result in structural distress or failure due to ground settlement, a loss of load-bearing capacity in foundation soils, and the buoyant rise of buried structures (GP, p. V-17).

A subsurface investigation of the Project area was conducted on September 17, 2019, by GeoCon West, Inc. (GeoCon) located in Appendix C. The subsurface investigation found that the geologic material consisted of undocumented fill (afu), Holocene-age alluvium (Qa), and Pleistocene-age Alluvial fan of the San Gorgonio Pass (Qf) deposits (GeoCon, p. 3). According to the City's GP, the Project site is located in an area with low liquefaction susceptibility (GP, Exhibit V-4; GP DEIR, Exhibit III-14).

The Project consists of a General Plan Amendment within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation (physical impacts) included in the proposed Project, it would not directly or indirectly cause substantial adverse effects, including seismic-related ground failure, including liquefaction. Therefore, the Project has **no impact**.

Source: GeoCon; GP; GP DEIR

iv) Landslides?

Landslides have become significant hazards as development within the City reaches higher elevations on the hill slopes. Rock falls, rockslides, and to a lesser degree large landslides are likely to occur in areas of high relief, such as along steep canyon walls in the southern Banning Bench area, and along the portions of the natural slopes facing the southern edge of the City (GP, p. V-6). There are several factors that contribute to slope failure, including slope height, slope steepness, shear strength and orientation of weak layers in the underlying geologic units, as well as poor water pressure. The proposed Project site is not located adjacent to any areas with low, moderate, or high risk of seismically induced settlement and slope instability and no known landslides have occurred in the Project vicinity (GP, Exhibit V-2; GP DEIR, Exhibit III-15).

The Project consists of a General Plan Amendment within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation (physical impacts) included in the proposed Project, it would not directly or indirectly cause substantial adverse effects, including landslides. Therefore, the Project has **no impact**.

Source: GP; GP DEIR

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

The proposed Project site is relatively flat. The Project is an amendment to the GP Circulation Element, and does not include an implementing project. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation (physical impacts) included in the proposed Project, it would not result in substantial soil erosion or the loss of topsoil. Therefore, the Project has **no impact**.

Source: Project Description

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?

Impacts related to landslides are addressed in Item VIa.iv, above; impacts related to liquefaction are addressed in Item VIa.iii, above; both were found to have no impact. The following analysis addresses impacts related to unstable soils, as a result of lateral spreading, subsidence, or collapse. Lateral spreading refers to the lateral movement of gently to steeply sloping saturated soil deposits caused by earthquake-induced liquefaction.

Subsidence in the Banning area is closely associated with groundwater levels and the most populated part of the City occurs in an area with geologic conditions vulnerable to ground subsidence. In particular, the alluvial sediments within the groundwater basins from which the City's water is withdrawn are subject to subsidence if rapid groundwater extraction occurs in response to increased water demands as a result of population growth or prolonged drought (GP DEIR, p. III-69). Structures sensitive to slight changes in elevation, such as canals, sewers and drainage improvements are generally sensitive to the effects of subsidence and may be damaged if subsidence occurs. The preliminary geotechnical investigation did not encounter groundwater during the investigation; data from the California Department of Water Resources Water Data Library

estimated the shallowest groundwater at that location is approximately 243 to 271 feet below ground surface (GeoCon, p. 4).

A substantial portion of the City's valley and canyon areas are underlain by potentially compressible and/or collapsible soils consisting of young sediments with low density that will settle under the added weight of fill embankments or buildings (GP DEIR, p. III-81). The Project is an amendment to the GP Circulation Element and does not include an implementing project. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation (physical impacts) included in the proposed Project, it would not potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Therefore, the Project has **no impact**.

Source: GeoCon; GP DEIR

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?

Expansive soils are those that contain significant amount of clay particles that have a high shrink (dry) and swell (wet) potential. The upward pressures induced by the swelling of expansive soils under moist condition can have harmful effect upon structures. In the City, expansive soils are primarily associated with areas underlain by older fan deposits containing argillic (clay-rich) soil profiles, which are in the moderately expansive range. Since the low-lying areas of the City are underlain by alluvial fan sediments that are composed primarily of granular soils, the expansion potential ranges from very low to moderately low (GP DEIR, p. III-69). The subsurface investigation found that the geologic material consisted of undocumented fill (afu), Holocene-age alluvium (Qa), and Pleistocene-age Alluvial fan of the San Gorgonio Pass (Qf) deposits (GeoCon, p. 3). These are granular soils.

The Project is an amendment to the GP Circulation Element and does not include an implementing project. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation (physical impacts) included in the proposed Project, it would not be impacted by expansive soil. Therefore, the Project has **no impact**.

Source: GeoCon; GP DEIR; Resolution 2017-07

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

The Project is an amendment to the GP Circulation Element and does not include an implementing project. The proposed Project does not include wastewater or tying into existing infrastructure for disposal of wastewater and no septic tanks or alternative wastewater disposal systems will be required. Therefore, **no impacts** are anticipated.

Source: Project Description

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

AE prepared a *Paleontological Memorandum: Constraints Analysis* (AE-B) dated October 8, 2019 and is included in Appendix B of this Initial Study. AE used guidelines developed by the County of Riverside to determine the likelihood of the presence of paleontological resources at a given site. Following the County's established process, baseline information is used to assign the paleontological sensitivity of a geologic unit(s) (or members thereof) to one of four categories—Low, Undetermined, High A (Ha), and High B (Hb) potential. Geologic units are "sensitive" for paleontological resources and have a High paleontological resource potential

if they are known to contain significant fossils anywhere in their extent, even if outside the Project site. High A (Ha) sensitivity is based on the occurrence of fossils that may be present at the ground surface of the Project site, while High B (Hb) sensitivity is based on the occurrence of fossils at or below 4 feet of depth, which may be impacted during construction activities (AE-B, pp. 1-3). AE found that the entire surface area of the Project site is mapped as High A (Ha) (AE-B, p. 5).

The Project site geology is characterized by Holocene-age alluvial deposits across the ground surface. Holocene-age deposits, particularly those less than 5,000 years old, are typically too young for the fossilization process to occur. Therefore, the Holocene-age alluvial deposits across the ground surface of the Project site are unlikely to preserve fossils. These deposits are underlain by older Holocene- and Pleistocene-age alluvial deposits. The older deposits have yielded significant fossils throughout Southern California from the coastal areas to the inland valleys (AE-B, pp. 3-4).

AE conducted a record search of paleontological resources at Project site. No specimens or localities are listed on the Project site; however, since numerous localities are within 10 miles of the Project site, there is a high likelihood of fossil preservation underlying the Project site. This finding supports the Project site's mapping as High A (Ha), as the surficial Holocene-age alluvial deposits overlie very shallow Pleistocene deposits with recorded vertebrate fossils throughout Southern California (AE-B, pp. 4-5).

The Project is an amendment to the GP Circulation Element and does not include an implementing project. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact of the proposed Project, the Project will not cause any change, including the direct or indirect destruction, of a unique paleontological resource or site or unique geologic feature. Therefore, the Project has **no impact**.

Source: AE-B

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Greenhouse Gas Emissions Discussion:

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

The Project is an amendment to the GP Circulation Element and does not include an implementing project. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, there are no greenhouse gas emissions associated with the Project. The Project will not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, and therefore the Project has **no impact**.

Source: Project Description

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

As described in threshold VII.a, above, the proposed Project will not generate any greenhouse emissions. Additionally, the City of Banning participated in the development of the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan (CAP). The proposed Project is consistent with the land use and zoning designation of the Project site which would have been accounted for in the City's CAP. Thus, the proposed Project does not conflict with any regulation adopted for the purpose of reducing the emissions of greenhouse gases. Therefore, the Project has **no impacts**.

Source: WRCOG CAP

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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 to the public or the environment?	☐	☐	☒	☐
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 or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Hazards and Hazardous Materials Discussion:

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

The Project is an amendment to the GP Circulation Element and does not include an implementing project. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, there are no transport, use, or disposal of hazardous materials. The Project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and therefore the Project has **no impact**.

Source: Project Description

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?

The Project is an amendment to the GP Circulation Element and does not include an implementing project. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact (construction or operation) of the proposed Project, the Project will not have any involvement with hazardous materials and would not 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. Therefore, the Project has **no impact**.

Source: Project Description

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The proposed Project is located approximately 1.2 miles to the southwest of the existing Hemmerling Elementary School. However, as discussed in Item VIII.a, above, the Project does not include any construction or operation; the Project is an amendment to the Circulation Element of the GP, and no implementing project is proposed. Thus, since there is no physical impact (construction or operation) of the proposed Project, the Project will not emit any hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Therefore, the Project has **no impact**.

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 to the public or the environment?

Per a review of the California Department of Toxic Substances Control (DTSC) EnviroStor Database, the proposed Project site is not itself a listed hazardous materials site. The closest listed hazardous materials cleanup site is the Community Day School No. 1 site (33010034), located approximately 3/4 mile to the north of the Project site (DTSC). As of February 14, 2002, DTSC determined that there is no further action. Thus, because the proposed Project site is not on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, or are there any listed sites adjacent to the Project site, the Project will not create a significant hazard to the public or the environment. Therefore, impacts will be **less than significant.**

Source: DTSC

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 or excessive noise for people residing or working in the project area?

The Banning Municipal Airport is located approximately four miles to the east of the Project site. Land use designations within the City have been arranged to accommodate for continued safe operation of the Banning Municipal Airport (GP DEIR, p. III-62). The Project site is not within the Banning Municipal Airport Land Use Compatibility Plan (ALUC). Thus, the proposed Project will not result in a safety hazard for people working or residing in the Project area. Therefore, impacts will be **less than significant.**

Source: ALUC; GP DEIR

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The City adopted the Multi-Hazard Functional Planning Guidance document in 1996. The document is organized into three-parts, which include: 1) the Banning Emergency Plan; 2) twelve functional Annexes that describe the emergency response organization; and 3) a listing of operational data such as resources, key personnel, and essential facilities and contacts (GP, p. VI-42). According to the City's GP, the City does not have established evacuation routes, although depending on the location and extent of emergency, major surface streets could be utilized to route traffic through the City (GP, p. VI-45). As discussed in Item VIII.a, the Project does not include any construction or operation; the Project is an amendment to the GP Circulation Element and does not include an implementing project. Since the project has no physical impacts (no construction or operation), the Project would not physically interfere with an adopted emergency response plan or emergency evacuation plan. In addition, the Project will not change the City's GP designation of Sun Lakes Boulevard, which is designated as a Major Local Roadway in the City's GP and could be expected to be a major evacuation route in the event of an emergency. The proposed Project site is located adjacent to Sunset Avenue, also identified as a Major Highway in the City's GP (GP, Exhibit III-4). Thus, the Project would not interfere with an adopted emergency response plan or emergency evacuation plan for the City. Therefore, impacts will be **less than significant**.

Source: GP

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

The proposed Project is located north of the City's High Fire Hazard Zone, within which relief is minimal and hardscape (concrete, asphalt, and structures) and landscaping vegetation predominate (GP, Exhibit V-10). The Project consists of amending the City's GP Circulation Element (GP Amendment No. 16-2501, Resolution 2017-07) to modify the alignment of Sun Lakes Boulevard in the GP; there is no implementing project. Since the Project has no physical impacts (no construction or operation), the Project could not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. Therefore, the Project has **no impact**.

Source: GP; Resolution 2017-07

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
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:				
i. Result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;	☐	☐	☐	☒
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Hydrology and Water Quality Discussion:

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

The proposed Project consists of an amendment to the GP Circulation Element to change the alignment of Sun Lakes Boulevard to match the existing road right-of-way between South Highland Home Road and Sunset Avenue. No construction is proposed as part of the Project. Currently, Sun Lakes Boulevard exists as straight east-west dirt road. The proposed Project will have the same street designation as the existing designation of Major or Arterial Highway; thus, the Project does not change the street capacity as currently accounted for in the GP. Therefore, because the proposed Project does not include construction or operational activities the Project does not pose a threat to surface or groundwater quality and **no impacts** will occur in this regard.

Source: Project Description.

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

The proposed Project consists of an amendment to the GP Circulation Element to relocate the alignment of Sun Lakes Boulevard to be consistent with the existing road right-of-way. The proposed Project does not an implementing project or construction activities. Therefore, the Project will not affect existing groundwater

supplies or interfere with recharge such that would impede management of the groundwater basin. **No impact** will occur in this regard.

Source: Project Description.

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:***

i) ***Result in substantial erosion or siltation on- or off-site?***

The proposed Project does not include ground-disturbing activities such as the construction of any structure or road. Further, the Project will not alter the course of a stream or river through the addition of impervious surfaces because none are proposed. As such, erosion or siltation will not occur as a result of the Project and **no impact** will occur in this regard.

Source: Project Description.

ii) ***Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?***

The proposed Project does not include ground-disturbing activities such as the construction of any structure or road. Further, the Project will not alter the course of a stream or river through the addition of impervious surfaces because none are proposed. As such, the Project will not result in flooding on or off site, and **no impact** will occur in this regard.

Source: Project Description.

iii) ***Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?***

The proposed Project does not include ground-disturbing activities such as the construction of any structure or road. Further, the Project will not alter the course of a stream or river through the addition of impervious surfaces because none are proposed. As such, additional sources of polluted runoff will not occur as a result of the Project and **no impact** will occur in this regard.

Source: Project Description.

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

The Project is an amendment to the GP Circulation Element and does not include an implementing project. There are no Project elements that would become a source of pollutants that would be at risk of release in the event of a flood and **no impacts** will occur in this regard.
Source: Project Description.

e) ***Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?***

The proposed Project consists of an amendment to the GP Circulation Element and no Project components are proposed that would conflict with or obstruct implementation of a water quality control plan or groundwater management plan. **No impact** will occur in this regard.

Source: Project Description.

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XI. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☒	☐

Land Use and Planning Discussion:

a) Physically divide an established community?

The Project consists of amending the City's GP Circulation Element (GP Amendment No. 16-2501, Resolution 2017-07) to modify the alignment of Sun Lakes Boulevard in the GP; there is no implementing project. Since the Project has no physical impacts (no construction or operation), the Project would not physically divide an established community. Therefore, the Project has **no impact**.

Source: Project Description

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?

The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and will not change the surrounding zoning and land use designations. The proposed roadway use is consistent with the site's existing use as a roadway. Thus, the Project will not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, impacts will be **less than significant.**

Source: Project Description

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Mineral Resources Discussion:

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?

Sand and gravel, collectively referred to as aggregate, is the primary mineral resource that is actively being developed in the eastern portion of the City. Weathering, erosion, and other geological processes have deposited materials from the surrounding mountains and hills, forming an alluvial fan with significant deposits of these mineral resources. The Surface Mining and Reclamation Act (SMARA) was developed to assure the preservation of mineral resources while concurrently addressing the need for protecting the environment. Under the direction of SMARA, the State of California Department of Conservation, Division of Mines and Geology, released a report identifying regionally significant mineral deposits in an effort to conserve and develop them; and to help in anticipating aggregate production needs of the region (GP, p. IV-82).

The proposed Project site is located within the Mineral Resource Zone 3 (GP, Exhibit IV-8 and p. IV-83). This means that the Project site is located within an area that contains mineral deposits; however, the significance of these deposits cannot be evaluated from available data. However, due to existing residential development to the east and west of the Project site, it is unlikely that a mining operation could operate at the Project site.

Further, the City has specific areas designated as Industrial-Mineral Resources (I-MR) land use in the City's GP to allow for surface mining operations on lands designated by the City or State as having significant potential for mineral resources (GP DEIR, Table I-18). Per **Figure 3**, the Project site is not within one of these zones, and so is not targeted for development of mineral resource mining by either the City or the State. In addition, the Project is an amendment to the GP Circulation Element and does not include an implementing project. Since the project has no physical impacts (no construction or operation), the Project would not 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. Therefore, the Project has **no impact**.

Source: GP; GP DEIR

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?

An approximately 6.5 acre area of Mineral Resource Zone 2, where adequate information indicates that significant mineral deposits are present or that a high likelihood for their presence exists, in the eastern portion of the City along the alluvial fan of the San Gorgonio River that lies southeast of the Banning Bench, north and south of Interstate 10 (GP Exhibit IV-8 and p. IV-83). The Banning Quarry, operated by Robertson's Ready Mix, was the only aggregate producer within the MRZ-2 designated area of the City (GP p. IV-83).

The proposed Project is not located within or adjacent to the Banning Quarry or any other locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Further, as described in Item XI.a, above, the proposed Project is not within the Industrial-Mineral Resources land use designation in the City's GP. The Project is an amendment to the GP Circulation Element and does not include an implementing project. Since the project has no physical impacts (no construction or operation), the Project would 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. Therefore, the Project has **no impact**.

Source: GP

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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 in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Noise Discussion:

a) 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?

The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include the implementation of an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, there is no generation of noise associated with the Project. The Project will not result in the 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, and therefore the Project has **no impact**.

Source: Project Description

b) Generation of excessive groundborne vibration or groundborne noise levels?

The Project is an amendment to the GP Circulation Element and does not include an implementing project. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, there are no generation of noise or vibration associated with the Project. The Project will not result in the generation of excessive groundborne vibration or groundborne noise levels, and therefore the Project has **no impact**.

Source: Project Description

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?***

The Banning Municipal Airport is located approximately three miles to the east of the Project site. Land use designations within the City have been arranged to accommodate for continued safe operation of the Banning Municipal Airport (GP DEIR, p. III-62). The Project site is located outside of the Airport Influence Boundary and the Airport Compatibility Zones (ALUC), therefore the Project will not have an impact on the Banning Municipal Airport. The proposed Project is not located within the vicinity of a private airstrip. In addition, there is no construction or operation associated with the Project, and thus no generation of noise from the Project, as described above in Item XIII.a. Therefore, the Project will have **no impact**.

Source: ALUC; GP DEIR

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XIV. POPULATION AND HOUSING. Would the project:				
a. 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)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Population and Housing Discussion:

a) 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)?

The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard to its existing alignment and within its existing right-of-way, and does not propose new homes, businesses, or infrastructure that would substantially induce population growth. The Project will not change the existing land uses as analyzed in the City's GP. Thus, the Project will not induce direct or indirect unplanned population growth. Therefore, **no impacts** are anticipated.

Source: Project Description

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The proposed Project site is an existing road right-of-way (Sun Lakes Boulevard) and there is no existing housing at the Project site. The Project is an amendment to the GP Circulation Element and does not include an implementing project. Thus, the proposed revisions to the GP Circulation Element will not displace any people or existing housing, nor necessitate the construction of replacement housing elsewhere. Therefore, **no impacts** are anticipated.

Source: Project Description

ENVIRONMENTAL FACTORS:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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:				
i. Fire protection?	☐	☐	☐	☒
ii. Police protection?	☐	☐	☐	☒
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

Public Service 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?

i) Fire protection?

Fire protection services are provided to the City of Banning through a contractual agreement with the Riverside County Fire Department, which in turn contracts with CalFire. The contract provides various fire related services, including emergency medical services, fire prevention, disaster preparedness, fire safety inspections, hazardous materials business plan programs and plan reviews. When an emergency call is received, the station that is physically closest to the emergency will respond, even if the emergency is located outside the station's official "jurisdiction" (GP, p. VI-35).

Per the Riverside County Fire Department, there are two fire stations located in the City: Fire Station 63, located at 49575 Orchard Road, and Fire Station 89, located at 172 North Murray Road (RCFD). Fire Station 20, located in the City of Beaumont at 1550 E. 6th Street, also responds to fire emergencies that occur in the City. Fire Station 20 is approximately 1.5 miles to the northwest of the Project site and would likely provide emergency response services to the Project site (the closest fire station in the City is Fire Station 89, approximately 2.2 miles to the northeast of the Project). The Riverside County Fire Department is rated as Class 4 by the Insurance Service Office (ISO), a private company, which rates fire departments throughout the country based on a scale of 1 to 10, with Class 1 being the highest possible score. The City aims for a ratio of above 0.70 fire personnel per 1,000 residents, which would be 58 firefighters at GP buildout (GP DEIR, p. III-202).

The Project is an amendment to the GP Circulation Element and does not include an implementing project. This use as a roadway is consistent with the City's existing land use designations. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since

there is no construction or operation included in the proposed Project, the Project will not cause a significant increase in population triggering the need for additional fire facilities or impacts to acceptable service ratios, response times, or performance objectives, and therefore the Project has **no impact**.

Source: GP; GP DEIR; RCFD

ii. Police protection?

Police protection services within City limits are provided by the Banning Police Department (GP, p. VI-32). The Banning Police Department has 35 sworn officers and maintains a ratio of 1.4 sworn officers for every 1,000 residents (GP DEIR, p. III-200). The City's police station is located at 125 East Ramsey Street, approximately 2.2 miles east of the Project site. The proposed Project involves revising the GP Circulation Element to realign Sun Lakes Boulevard to its existing alignment and within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project is an amendment to the GP Circulation Element and does not include an implementing project. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project will not cause a significant increase in population triggering the need for additional police services and will not impact to police facilities or maintenance of acceptable service ratios, response times, or other performance objectives, and therefore the Project has **no impact**.

Source: GP; GP DEIR

iii. Schools?

Most of the City is served by the Banning Unified School District, with a small area in the western portion of the City served by the Beaumont Unified School District (GP, pp. VI-24 – VI-25). The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project will not cause an increase in population that would require additional school facilities, and therefore the Project has **no impact**.

Source: GP

iv. Parks?

Parks and recreation services within the City are provided by the City Community Services Department. The Riverside County Regional Park and Open Space District also provides recreational facilities and services at County owned parks facilities within the City (GP, p. III-83). The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard to its existing alignment and within its existing right-of-way and this use is consistent with the City's existing land use designations. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project

will not cause an increase in population that would require additional park facilities, and therefore the Project has **no impact**.

Source: GP

v. Other public facilities?

Other public facilities in the City include one U.S. Post Office, the Banning Municipal Airport, San Gorgonio Memorial Hospital, and several public utility facilities operated by the City Public Works Department. The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, no construction of additional public facilities will be required, and therefore the Project has **no impact**.

Source: GP

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Recreation 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?

Parks and recreation services within the City are provided by the City Community Services Department. The Riverside County Regional Park and Open Space District also provides recreational facilities and services at County owned parks facilities within the City (GP, p. III-83). The Project is an amendment to the GP Circulation Element and does not include an implementing project; it will not cause an increase in population that would require additional park facilities. The Project will not increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, **no impacts** are anticipated.

Sources: GP, Project Description

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?

The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and will not cause an increase in population that would require additional park facilities. Thus, the Project does not include recreational facilities or require the construction or expansion of recreational facilities. Therefore, **no impacts** are anticipated.

Source: Project Description

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒
b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☐	☒

Transportation and Traffic Discussion:

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Each county in California is required to develop a Congestion Management Program (CMP) that analyzes at the links between land use, transportation and air quality. The Riverside County Transportation Commission (RCTC) is the County of Riverside's Congestion Management Agency. The RCTC prepares and periodically updates the County's CMP to meet federal Congestion Management System guidelines and state CMP legislation. The most recent CMP is included within RCTC's Long Range Transportation Plan (LRTP), which was completed in December 2019. According to Appendix A of the LRTP, in the 2011 Riverside County Congestion Management Program, Interstate 10 and Highway 243 are the only roads in proximity to the Project site listed as part of the CMP System of Highways and Roadways. These roads are not directly adjacent to the Project site. Thus, the Project will not conflict with a CMP due to the distance between the Project site and these covered roadways and the trips have been accounted for in the GP.

The GP identifies that sidewalks, bike lanes, off-street trails and golf cart routes are especially important along major roadways in the community. The City identifies bus schedules as part of their local transit network (PASS). Regional bus service is provided by the Riverside Transit Agency (RTA), which provides services to Hemet/San Jacinto (Route 31), Moreno Valley (Route 35), and Calimesa/Redlands (Route 36). The proposed Project involves amending the GP Circulation Element (GP Amendment No. 16-2501, Resolution 2017-07) to modify the alignment of Sun Lakes Boulevard; the Project does not include an implementing project, and thus involves no construction or operation or physical impact to the Project site. The Project will not conflict with any program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Therefore, the Project has **no impact**.

Sources: GP; LRTP; PASS; Resolution 2017-07; RTA

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Senate Bill 743 (SB 743) was passed by the California State Legislature and signed into law by Governor Brown in 2013. SB 743 required the Office of Planning and Research and the California Natural Resources Agency to develop alternative methods of measuring transportation impacts under the California Environmental Quality Act (CEQA). In December 2018, the California Natural Resources Agency finalized updates to the CEQA Guidelines, which included SB 743. Section 15064.3 of the 2019 State *CEQA Guidelines* provide that transportation impacts of projects are, in general, best measured by evaluating the project's vehicle miles

traveled (VMT). Automobile delay (often called Level of Service) will no longer be considered to be an environmental impact under CEQA. Automobile delay can, however, still be used by agencies to determine local operational impacts.

The provisions of this section are not mandatory until July 1, 2020; however, local agencies may choose to opt in before that date. At the time of preparation of this report, the City has not updated their procedures to analyze VMT; thus, this Project is not currently subject to section 15064.3 of the 2019 CEQA Guidelines. The Project has **no impact**.

Sources: SB 743

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

The proposed Project does not propose any design features that would increase traffic hazards, as the Project is amending the City's GP Circulation Element (GP Amendment No. 16-2501, Resolution No. 2017-07) to modify the alignment of Sun Lakes Boulevard from a S-curve to a mostly straight road. Additional surrounding land uses include vacant land to the north and south and residential development to the east and west. Thus, the Project is not introducing a substantially different land use to the area and will be compatible with adjacent uses. In addition, the Project does not include an implementing project, and thus involves no construction or operation or physical impact to the Project site. As such, the Project will not increase hazards due to a design feature or incompatible use. Therefore, the Project has **no impact**.

Source: Project Description; Resolution No. 2017-07

d) Result in inadequate emergency access?

The Project consists of amending the City's GP Circulation Element (GP Amendment No. 16-2501, Resolution No. 2017-07) to modify the alignment of Sun Lakes Boulevard. It is a Major Highway in the City's GP circulation element, therefore will provide access to the land uses with the surrounding area. The Project does not include an implementing project or change to the road designation in the GP, and thus involves no construction or operation or physical impact to the Project site. As the Project has no physical impact on the Project site, it will not result in inadequate emergency access. Therefore, the Project has **no impact**.

Source: Project Description; Resolution No. 2017-07

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XVIII. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resource 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 Resource Code section 5020.1(k), or	☐	☐	☐	☒
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.	☐	☐	☒	☐

Tribal Cultural Resources Discussion:

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 Resource Code section 5020.1(k)

As identified in Item V.a, above, a *Cultural Resource Constraints Analysis* dated November 6, 2019 was prepared by Applied Earthworks (AE-A) and no eligible historic properties or significant historical resources have been recorded or listed within the Project area or on the Project site (AE-A, p. 5). In addition, the Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact of the proposed Project, the Project will not cause any change (include adverse change) to any cultural resource, including in the significance of a historical resource. Therefore, the Project has **no impact**.

Source: AE-A

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.

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

Senate Bill 18 (SB 18), effective September 2004, requires local government to notify and consult with California Native American tribes when the local government is considering adoption or amendment of a general or specific plan. Pursuant to Government Code §65352.3, prior to adoption or any amendment to a General Plan, proposed on or after March 1, 2005, the city or county shall conduct consultations with California Native American tribes for the purpose of preserving or mitigating impacts to Cultural Places. The tribe(s) has 90 days from when the tribe is contacted by the city or county in which to request a consultation.

On July 3, 2019, the City of Banning notified local tribal governments in writing of the proposed Project pursuant to AB 52 pertaining to tribal cultural resources consultation; the City also sent separate notification to local tribes pursuant to SB 18 on July 3, 2019. **Table 18.1 – AB 52 and SB 18 Response Log**, shows the results of this July 3, 2019 notification from the City.

Table 18.1 – AB 52 and SB 18 Response Log

Native American Group (Individual Responding)	Comment
Agua Caliente Band of Cahuilla Indians (Lacy Padilla)	In a response dated July 22, 2019, Lacy Padilla, on behalf of the Agua Caliente Band of Cahuilla Indians, asked the City for shapefiles for the proposed Project. In a separate response dated August 5, 2019, Lacy Padilla, on behalf of the Agua Caliente Band of Cahuilla Indians, noted that the Project area is not located within the boundaries of the Agua Caliente Band of Cahuilla Indians Reservation. However, the Project is located within their traditional use area; for this reason, they requested the following: • Copies of any cultural resource documentation (report and site records) generated in connection with this Project.
Augustine Band of Cahuilla Indians (Victoria Martin)	In a response dated August 26, 2019, Victoria Martin, on behalf of the Augustine Band of Cahuilla Indians, noted that they are unaware of specific cultural resources that may be affected by the proposed Project. They request that in the event any cultural resources are discovered during the development of the Project, the City should contact them immediately for further evaluation.
Morongo Band of Mission Indians (Travis Armstrong)	In a response dated July 17, 2019, Travis Armstrong, on behalf of the Morongo Band of Mission Indians, noted that the proposed Project is within the ancestral territory and traditional use area of the Cahuilla and Serrano people of the Morongo Band of Mission Indians. They requested consultation with the City on the proposed Project. They requested the following: • A records search conducted at the appropriate California Historical Resources Information System (CHRIS) center with at least a 1.0-mile search radius. If you already have done this work, please furnish copies of the reports and site records generated through this search for us to compare to our records to begin productive consultation. • Tribal participation during survey and testing, if this fieldwork has not already taken place. In the event that archaeological crews have completed this work, our office requests a copy of the Phase I study or other cultural assessments as soon as available.

Native American Group (Individual Responding)	Comment
	The letter also noted that avoidance is the preferred alternative over removal, reburial, or monitoring regarding tribal cultural resources.
Rincon Band of Luiseño Indians (Destiny Colocho)	In a response dated July 10, 2019, Destiny Colocho, on behalf of the Rincon Band of Luiseño Indians, noted that they have concerns for the impacts to historic and cultural resources and the finding of items of significant cultural value that could be disturbed or destroyed and are considered culturally significant to the Luiseño people. They state that the Project site is not within the Luiseño Aboriginal Territory. They recommend that the City locate a tribe within the Project area to receive direction on how to handle any inadvertent findings according to their customs and traditions.
San Manuel Band of Mission Indians (Alexandra McCleary)	In a response dated November 26, 2019, Alexandra McCleary, on behalf of the San Manuel Band of Mission Indians, noted that the proposed Project is located outside of the Serrano ancestral territory and, as such, they will not be requesting further consultation with the City.
San Manuel Band of Mission Indians (Mary Vizcaino)	In a response dated July 17, 2019, Mary Vizcaino, on behalf of the San Manuel Band of Mission Indians, noted that the proposed Project is located outside of the Serrano ancestral territory and, as such, they will not be requesting further consultation with the City.
Twenty-Nine Palms Band of Mission Indians (Anthony Madrigal)	In a response dated August 1, 2019, Anthony Madrigal, on behalf of the Twenty-Nine Palms Band of Mission Indians, noted that they are not aware of any additional cultural resources within the Project area, and are looking forward to working with the City of Banning on this Project.

As a result of these consultations, AB52 and SB18 consultations are complete. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no physical impact of the proposed Project, there are no impacts to resources potentially considered significant by California Native American tribes consulting during government-to-government consultation through AB52 and SB18, therefore impacts are **less than significant**.

Sources: AB 52; SB 18

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Utilities and Service Systems Discussion:

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?

The City of Banning Public Works Department – Wastewater Division provides sanitary wastewater services to the City of Banning, including the Project site. Buildout according to the City's GP is anticipated to occur gradually over the life of the GP and it is expected that the City will be able to monitor growth trends to assure that wastewater services are adequate (GP DEIR, p. III-210). The City Public Works Department provides domestic water services to the City of Banning and unincorporated County of Riverside lands located southwesterly of the City limits. The City owns and operates wells, reservoirs, and a distribution line system to deliver domestic water within their service area. The City has water lines ranging from 2 inches to 30 inches in diameter (GP DEIR, p. II-15). The Riverside County Flood Control and Water Conservation District (RCFC) is responsible for the management of regional drainage within and in the vicinity of the City. The City, however, remains directly responsible for the management of local drainage (GP DEIR, p. III-90).

Electricity is provided to the City by the Banning Department of Public Works, which buys its electricity from Southern California Edison (SCE). SCE facilities include a substation located on east Ramsey Street, and high-voltage transmission lines, which range from 12 kilovolts (KV) to 115KV. Three of the 33KV transmission lines deliver power to areas other than the City. Another 33KV transmission line delivers power supplies to five distribution stations operated by the City. These stations distribute power via 4KV and 12KV distribution systems, which provide electricity to individual residences (GP DEIR, p. III-204).

The Gas Company (formerly Southern California Gas) provides natural gas services and facilities to the City. Natural gas supplies to the City originate from Texas, transported by three major east-west trending gas lines. These high-pressure gas lines, of varying sizes, traverse through the eastern desert areas to the western end

of Riverside County. In addition, there are other natural gas pipelines located in Wilson and Lincoln Streets (GP DEIR, pp. III-205 – III-206).

Telephone services are provided by Verizon, while cable is provided by Time Warner (GP DEIR, p. III-192). Verizon provides a variety of services to their customers including local and long distance calling, internet services, wireless communication, conference services, calling cards, toll free business numbers, and voicemail. Time Warner offers a variety of services including a wide range of cable products and services, high speed internet, digital cable, movies, and High Definition TV (GP DEIR, p. III-207).

The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project will not require the use or relocation of any utilities or services. The Project will not 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. Therefore, the Project has **no impact**.

Source: Project Description; GP DEIR

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

The City Public Works Department provides domestic water services to the City of Banning and unincorporated County of Riverside lands located southwesterly of the City limits. The City owns and operates wells, reservoirs, and a distribution line system to deliver domestic water within their service area. The City has water lines ranging from 2 inches to 30 inches in diameter (GP DEIR, p. II-15). According to the City's 2015 Urban Water Management Plan, the City will be able to meet future demands through 2035 with existing supplies, without using any of the City's 46,774 acre-feet of groundwater in reserve storage in the Beaumont Storage Unit. If the stored groundwater is used to supplement demands, the City will be able to satisfy projected demands at 220 gallons per capita per day (GPCD) without acquiring additional quantities of replenishment water for many years beyond 2040. (UWMP, p. 6-5). The proposed Project is consistent with the City's current land use and zoning designations for the site, and thus would have been accounted for in the City's UWMP.

The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project will not require the use of any water supplies. Therefore, the Project has **no impact**.

Source: GP DEIR; UWMP

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?***

The City of Banning Public Works Department provides sanitary wastewater services to the City of Banning, including the Project site. Buildout according to the City's GP is anticipated to occur gradually over the life of the GP and it is expected that the City will be able to monitor growth trends to assure that wastewater services are adequate (GP DEIR, p. III-210). The proposed Project is consistent with the City's current land use and zoning designations for the site, and thus would have been accounted for in the City's GP.

The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project will not require the use of wastewater services. Therefore, the Project has **no impact**.

Source: Project Description; GP DEIR

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?***

Solid waste collection and disposal services are provided by Waste Management Inland Empire and trash collected from the City is disposed at the Lamb Canyon Sanitary Landfill, El Sobrante Landfill, and the Badlands Landfill (GP DEIR, p. III-211). According to CalRecycle databases, the Badlands Landfill will remain operational until 2022, Lamb Canyon Landfill until 2029, and El Sobrante Landfill until 2051 (CAL-R). Additionally, proposed land uses envisioned in the City's GP are not anticipated to produce unusually high quantities of waste. However, in order to ensure the safe and cost-effective disposal of the City's solid waste, monitoring of waste management by City departments is necessary (GP DEIR, p. III-212).

The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project will not generate any waste. Therefore, the Project has **no impact**.

Source: CAL-R; GP DEIR

e) ***Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?***

The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent

implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project will not generate any waste. Therefore, the Project has **no impact**.

Source: Project Description

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Wildfire Discussion:

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

According to GP, the proposed Project is within an area classified as high fire threat zone, with a small portion of the right-of-way within a very high fire threat zone and is adjacent to an area of very high fire threat zone to the south within the City's sphere of influence (GP, Exhibit V-10). According to CalFire, the proposed Project borders a local responsibility area (LRA) to the north and a state responsibility area (SRA) to the south.

The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project will not substantially impair an adopted emergency response plan or emergency evacuation plan. Therefore, the Project has **no impact**.

Source: GP, CalFire

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?

As discussed in the previous Item XX.a, the Project is near a high fire hazard severity zone (GP, Exhibit V-10). The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent

implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project will not contribute to the spreading of wildfire. Since the Project will not exacerbate wildfire risks, the Project will not expose occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and **no impact** is anticipated.

Source: GP

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?

As noted above in Item XX.a, the Project is near a high fire hazard severity zone (GP Exhibit V-10). The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project will not install or maintain infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. **No impact** is anticipated.

Source: GP

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?

As noted above in Item XX.a, the Project is near a high fire hazard severity zone (GP Exhibit V-10). The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Initial Study does not include an implementing Project, which would ultimately be the construction and operation of Sun Lakes Blvd between South Highland Home Road and Sunset Avenue. Subsequent implementing projects to design, construct, and operate the proposed Project will not be analyzed in this Initial Study. Thus, since there is no construction or operation included in the proposed Project, the Project will not 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. **No impact** is anticipated.

Source: GP

ENVIRONMENTAL FACTORS:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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 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)?	☐	☐	☒	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Mandatory Findings of Significance 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 an endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

As discussed throughout the Initial Study, the proposed Project area contains some sensitive biological resources. The presence of any previously recorded or potential cultural or historic resources were not found on the proposed Project site or within the Project vicinity. Further, the site has been previously disturbed, and it is highly unlikely that any cultural resources could exist. The proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. The Thus, since there is no construction or operation included in the proposed Project, the Project will not have any physical impacts, including any impacts to fish or wildlife species, plant or animal communities, rare or endangered plants or animals, or important examples of major periods of California history or prehistory.

The proposed Project will not 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. Therefore, impacts are **less than significant**.

Source: Above Initial Study

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)?

As demonstrated by the analysis in this Initial Study, the proposed Project involves amending the GP Circulation Element to realign Sun Lakes Boulevard within its existing right-of-way and this use is consistent with the City's existing land use designations. The Project realignment is only within the Circulation Element of the GP; no implementing project is proposed at this time. Thus, the Project will have no physical impact to the Project site. The proposed Project will not result in any impacts that are individually limited, but cumulatively considerable. The Project is consistent with local and regional plans, and the Project has no air quality emissions (since there is no construction or operation associated with the Project). The Project adheres to all other land use plans and policies with jurisdiction in the Project area, and will not increase traffic volumes within the Project area. The Project is not considered growth-inducing as defined by State *CEQA Guidelines* Section 15126.2(d) and will not induce, either directly or indirectly, population and/or housing growth. Therefore, impacts are **less than significant**.

Source: Above Initial Study

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Effects on human beings were evaluated as part of this Initial Study and found to be less than significant or have no impact. Based on the analysis and conclusions in this Initial Study, the proposed Project will not have any physical impacts, and thus will not cause substantial adverse effects directly or indirectly to human beings. Therefore, potential direct and indirect impacts on human beings that result from the proposed Project are considered **less than significant**.

Source: Above Initial Study

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Sections 65088.4, Gov. Code; Sections 210808(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino,* (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors,* (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; P*rotect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109*; San Francisco Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656

EARLIER ANALYSES

Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration as per California Code of Regulations, Section 1503 (c) (3) (D).

Earlier Analysis Used, if any: City of Banning, *Resolution No. 2017-07: A Resolution of the City Council of the City of Banning, California Approving General Plan Amendment No. 16-2501 to Amend the General Plan Circulation Element to Reflect the Removal of the Proposed Extension of Highland Home Road to Brookside Avenue and Cherry Valley Boulevard, Approving an Addendum to the Butterfield Specific Plan Final Environmental Impact Report (SCH No. 2007091149) and Associated Modifications to the Mitigation Monitoring and Reporting Program, Concurring with and Approving Proposed Minor Modifications to the Butterfield Specific Plan Located at the Northeast Corner of Highland Springs Avenue and Wilson Street, APNs 408-030-001 and 005; 408-120-001 through 020, and 022, 024, 025, 027, and 033; and 531-080-013 and 014,* February 14, 2017. (Available at the City of Banning.)

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The following documents were referred to as information sources during preparation of this document. They are available for public review at the locations abbreviated after each listing and spelled out at the end of this section. Some of these documents may also be available at the Banning Public Library.

Cited As:	Source:
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WRCOG CAP	Western Riverside Council of Governments, *Subregional Climate Action Plan*, September 2014. (Available at http://www.wrcog.cog.ca.us/DocumentCenter/View/188, accessed December 23, 2019.)

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Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis
Sun Lakes Boulevard Realignment Project

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December 11, 2019

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1 EXECUTIVE SUMMARY

Wood Environment & Infrastructure Solutions, Inc. (Wood) conducted a 'desktop' biological resources assessment/literature review and prepared a Western Riverside County Multiple Species Habitat Conservation Plan (WRCMSHCP) compliance report for the Sun Lakes Boulevard (Blvd) Realignment Project. The project site includes a project area that parallels four adjacent parcels, Assessor's Parcel Number (APNs): 537-110-007; -008; -009; -010; totaling approximately 170-acres. The proposed project area (roadway alignment) is approximately 13.6 acres and provides for approximately 5,456 linear feet of roadway. The project site is in the city of Banning, Riverside County, California. The proposed project includes the extension of Sun Lakes Boulevard, from its current termination point at South Highland Home Road east to West Westward Avenue at South Sunset Avenue.

The Sun Lakes Blvd. Realignment Project (project site) is currently undeveloped, with no existing structures, and vegetation that is a mosaic of coastal sage scrub, grassland, and water habitats. Surrounding land use includes existing residential development and vacant land. A natural gas pipeline occurs along the western extension of the road alignment at Westward Avenue (also known as Sun Lakes Blvd).

Tasks performed by Wood included a "desktop" level review per the city's request. The city of Banning deemed 'a "desktop" level review adequate to provide environmental clearance for the Circulation Update'. Wood performed a literature review and analysis of the project relative to the WRCMSHCP, including a review of aerial photographs to determine the potential for suitable habitat for burrowing owl (*Athene cunicularia*), Los Angeles pocket mouse, narrow endemic plant species, and a general evaluation of the site for other sensitive biological resources and/or habitat.

The project site is located within the WRCMSHCP designated burrowing owl survey area. Mapped vegetation in the area shows most of the site is non-native grassland and therefore potentially provides suitable habitat on-site for burrowing owl. A burrow survey of the project site is required to determine if protocol-level focused survey for burrowing owl are required. The protocol-level survey will identify the presence/absence of the burrowing owl within the proposed project area. Since the project site is not within a Criteria Cell, three (3) or more pairs of burrowing owls must be present before the project site will be recommended for mitigation under MSHCP requirements.

The project site is located within WRCMSHCP designated Narrow Endemic Area Plant Species survey area for three species: San Diego Ambrosia (*Ambrosia pumila*), Brand's Phacelia (*Phacelia stellaris*), and San Miguel savory (*Satureja chandleri*). Vegetation communities mapped by the Western Riverside County Regional Conservation Agency (RCA) (2012) within the project area

includes sage scrub habitat and soils include sandy loam both attributes potentially provide suitable habitat for these three species.

However, there are no recorded occurrences for any of these three species within a three-mile radius of the project site. A habitat assessment and/or focused surveys for the narrow endemic plant species is required based on the potential of suitable habitat (vegetation and soils) within the project area for these species.

The project site is in the Pass Area Plan of the WRCMSHCP and does not lie within any WRCMSHCP Criteria Cells. The WRCMSHCP Conservation Summary Generator indicates that the project area does not require surveys and a habitat assessment for Criteria Area Plant Species, Sensitive Mammals Surveys or Sensitive Amphibian surveys.

A formal jurisdictional delineation will also be required to identify the limits of jurisdiction for United States Army Corps of Engineers (USACD), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB).

The project site is not located within any United States Fish and Wildlife Service (USFWS) designated Critical Habitat for any species.

According to the WRCMSHCP, the Urban/Wildlands Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the WRCMSHCP Conservation Areas (WRCMSHCP, pages 6-42). The project site is not within or immediately adjacent to any conservation areas or WRCMSHCP Core Linkages; therefore, the project will not need to incorporate Urban/Wildlife Interface Guidelines during construction.

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ACRONYMS AND ABBREVIATIONS

APN's	Assessor's Parcel Number(s)
BLM	Bureau of Land Management
CASSA	Criteria Area Species Survey Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CWA	Clean Water Act
ESA	Endangered Species Act
FESA	Federal Endangered Species Act
GIS	Geographic Information System
GPS	Global Positioning System
HMU	Habitat Management Unit
I-10	Interstate 10
MBTA	Migratory Bird Treaty Act
MSHCP	Multiple Species Habitat Conservation Plan
NEPSSA	Narrow Endemic Plant Species Survey Area
PQP	Public Quasi-Public Lands
RCA	Riverside County Authority
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
USACE	United States Army Corps of Engineers
USDA NRCS	United States Department of Agriculture, Natural Resources Conservation Service
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
Wood	Wood Environment & Infrastructure Solutions, Inc.
WRCMSHCP	Western Riverside County Multiple Species Habitat Conservation Plan

2 INTRODUCTION

Wood Environment & Infrastructure Solutions, Inc. (Wood) was contracted by Albert A. Webb Associates (Webb) to conduct a 'desktop' biological resources assessment/literature review and prepare a Western Riverside County Multiple-Species Habitat Conservation Plan compliance report for the Sun Lakes Blvd Realignment Project. The project site makes up a total of approximately 13.6-acres and approximately 5,456 linear feet of roadway. The project site is in the city of Banning, Riverside County, California. The proposed project includes the extension of Sun Lakes Boulevard, from its current termination point at Highland Home Road to the anticipated connection with West Woodward Avenue at South Sunset Avenue.

The city of Banning requires a biological resources assessment in compliance with the WRCMSHCP as part of the California Environmental Quality Act (CEQA) requirements. The city of Banning deemed 'a "desktop" level review adequate to provide environmental clearance for the Circulation Update'.

2.1 Project Area

The project site includes a project area that parallels and/or meanders into four adjacent parcels, APNs 537-110-007; -008; -009; -010; totaling approximately 170 acres. The proposed project area (roadway alignment) is approximately 13.6-acres and provides for approximately 5,456 linear feet of roadway. The Sun Lakes Blvd. Realignment Project (project site) is currently undeveloped, with no existing structures, and vegetation that is a mosaic of coastal sage scrub, grassland, and water habitats. Surrounding land use includes existing residential development to west and east, and vacant land to the north and south.

The city of Banning proposes an update to the City's General Plan (GP) Circulation Element to modify the alignment of Sun Lakes Boulevard (Blvd). The City's GP currently depicts Sun Lakes Boulevard as an "s" curve connecting from Sun Lakes Blvd to West Lincoln Street. The Project would revise the GP Circulation Element to realign Sun Lakes Boulevard as a 'straight', east-west road between its intersections with Sun Lakes Blvd. on the west side and Sunset Avenue on the eastern side of the Project (east of Sunset Avenue, Sun Lakes Boulevard becomes West Westward Avenue) and include street lights. The proposed road generally follows the existing right-of-way (ROW) between Sunset Avenue and Sun Lakes Blvd; two portions of the proposed road slightly curve to the north, into portions APN 537-110-007 and -008, and then back to the existing paved dirt road. The proposed project area is approximately 13.6-acres and provides for approximately 5,456 linear feet of roadway; however, the length of the roadway (i.e. permanent impact) is

marginally less due to the removal of an existing "S-curve" resulting in the modification of the roadway alignment to be approximately 5,357 feet (13.6-acres). Temporary impacts will include equipment staging areas and ingress/egress routes during construction (see Appendix A, Figure 4, Site Plan).

2.2 Project Description

The project site is generally located south of the Interstate 10 Freeway, west of South Sunset Avenue, and between the terminus of Sun Lakes Blvd on the west and the terminus of Westward Avenue on the east (see Appendix A, Figure 1). It can be found in Section 7 of Township 3 South, Range 1 East, as shown on the *Beaumont, California,* United States Geological Survey (USGS) 7.5-minute quadrangle (See Appendix A, Figure 2). The elevation of the project site ranges from 2,416 to 2,512 feet above sea level. The geographic coordinates near the middle of the site are 33.5512.85° North latitude and -116.5516.29° West longitude (see Appendix A, Figure 3).

The proposed project includes the extension of Sun Lakes Boulevard, from its current termination point at Sun Lakes Blvd at South Highland Home Road east to West Westward Avenue at South Sunset Avenue. Specifically, providing an addition of approximately 5,456 linear feet of roadway, and encompassing approximately 13-acres of roadway within the ROW (see Appendix A, Figure 4).

2.3 General Setting

The approximately 13.6-acre project site is currently undeveloped with no existing structures. Historically the general areas was graded for agricultural purposes in the 1960's. It has remained vacant for the past 2 to 3 decades.

3 RESERVE ASSEMBLY ANALYSIS

The project site lies within The Pass Area Plan and the Badlands Habitat Management Unit (HMU). The project site does not lie within and/or adjacent to any WRCMSHCP cell group or criteria cell. Thus, the project site is not subject to any conservation of land within the site boundary.

3.1 Public Quasi-Public Lands

3.1.1 Public Quasi-Public Lands in Reserve Assembly Analysis

The project site does not lie within and/or adjacent to any Public Quasi-Public Lands (PQP). Thus, the project will not have any impacts, directly or indirectly to PQP lands.

4 VEGETATION MAPPING

Per the city's direction, no site visit was conducted for this project area. Vegetation is based on the RCA Vegetation Mapping Data (2012) and is depicted on Figure 5 (Appendix A). Table 1 below shows the breakdown of the vegetation communities as mapped in the data obtained on the RCA website (http://wrcrca.maps.arcgis.com).

Table 1: Mapped Vegetation Communities (RCA, 2012)

Vegetation Community	Acreage (approximated)
Coastal Sage Scrub	3.74
Developed/Disturbed Land	0.03
Grassland	9.05
Water	0.76

5 SOILS

The United States Department of Agriculture National Resources Conservation Service (USDA NCRS) maintains an on-line searchable soils database, the Web Soil Survey (USDA 2015), which was consulted during the project literature search in order to determine the soil associations and soil types occurring on the project site. Eight soil types are mapped within the project area and are shown on Figure 7. Two types of Greenfield sandy loam soils are mapped within the project area. These soils are mapped between 2 to 8 (GyC2) and 8 to 15 percent slopes, eroded (GyD2) and are found on gently to moderately sloping soils that occur on alluvial fans and terraces where vegetation includes annual grasses, forbs, sumac, chamise, and occasionally scattered oak trees. Hanford coarse sandy loam soils are mapped on-site. This soil is mapped between 2 to 8 percent slopes and found to occur on gently to moderately sloping soils on alluvial fans where vegetation includes annual grasses, forbs, sumac, chamise. Three types of Ramona sandy loam soils are mapped within the project area. These soils are mapped between 2 to 5 percent slopes, 8 to 15 percent slopes, and 15 to 25 percent slopes, severely eroded. These soils are found in areas of historical agricultural lands and where vegetation includes annual grasses, forbs, chamise, salvia, and flat-top buckwheat. Riverwash and Terrace escarpments are also mapped within the project area. Riverwash is on slopes of 0 to 8 percent slopes in valley fills, on alluvial fans, and occurs in the beds of the major streams and larger creeks. Terrace escarpments (TeG) slopes range from 30 to 75 percent. The NRCS does not list any of these soils as hydric soils. A site visit is required to confirm if the soils on-site were found to be consist with those historically mapped within the project area.

6 PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS (SECTION 6.1.2)

The RCA MSHCP Information Map Generator indicates that the project area does have mapped areas of riparian/riverine areas and thus potentially vernal pools. Current site conditions are unknown. A review of the 1996 aerial view of the project site (googlearth.com, 2019) during a 'wet year' shows some ponded areas within the vicinity of the project area. Based on historical aerials, the project site does not likely have vernal pools present within the project site (i.e. adjacent to the earthen road). The project site also does not support or lie adjacent to riparian/riverine areas; and therefore, no suitable habitat for least bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-billed cuckoo (*Coccyzus americanus*) or fairy shrimp species occurs within the project site. Due to a lack of suitable habitat, additional focused surveys and/or mitigation measures are not required for riparian/riverine species. The riparian avian species mentioned above are commonly associated with moderate to dense riparian habitat with willows as the document plant species. This habitat is not found within the project site or immediate vicinity. Also, fairy shrimp habitat is characterized under the MSHCP as any area that ponds water long enough to support fairy shrimp species. The project site does not contain any areas that pond water or areas that have evidence of ponding. Therefore, the habitat associated with fairy shrimp species does not occur within project. The project site contains Ramona sandy loam (RaB2), Greenfield sandy loam (GyD2), Terrace escarpments (TeG), and Riverwash (RsC), none of which will generate an impervious surface to retain water and therefore suitable fairy shrimp habitat will not develop of time.

7 PROTECTION OF NARROW ENDEMIC PLANT SPECIES (SECTION 6.1.3)

The RCA MSHCP Information Map Generator indicates that the project area does lie within Narrow Endemic Plant Species Survey Area (NEPSSA) (Figure 6) for three (3) narrow endemic plant species: San Diego Ambrosia (*Ambrosia pumila*), Brand's Phacelia (*Phacelia stellaris*), and San Miguel savory (*Satureja chandleri*). Table 2 below describes the narrow endemic plants and their habitat requirements and potential to occur within the project area based on the soils mapped on-site and/or the historically mapped vegetation communities.

Table 2 – Narrow Endemic Survey Area 1 Plants

Scientific/Common Name	Federal / State / CNPS Status Codes	Habitat	Soils	Blooming Period	Potential to Occur
Ambrosia pumila **San Diego Ambrosia**	- / SP / 1B	A perennial rhizomatous herb found in sandy loam or clay, often in disturbed areas, sometimes alkaline. It occurs in chaparral, coastal scrub, valley and foothill grasslands, and vernal pools. It is found between 66 and 1,362-feet elevation.	Sandy loam and clay soils.	April to October	This species is considered to have no potential of occurrence due to the proposed project site lies outside the known elevational range (66-1,362 feet) for this species.

Phacelia stellaris **Brand's star phacelia**	FC / SP / 1B	An annual herb that occurs in sandy soils and is found in sandy washes and/or benches in alluvial flood plains within coastal strand and/or coastal sage scrub vegetation communities. Found at 3 to 400 meters (3 to 1,315 feet) elevation.	Sandy soils	March to June	This species is considered to have no potential of occurrence due to the proposed project site lies outside the known elevational range (66-1,362 feet) for this species.
Clinopodium chandleri **San Miguel savory**	- / - / 1B	Perennial shrub found in coastal sage scrub, chaparral, cismontane woodland, riparian woodland, and valley and foothill grasslands. Found at 120 to 975 meters (393 to 3,198.82 feet) elevation.	Rocky, gabbroic and metavolcanic substrates.	March to July	Historically, suitable soils (rocky gabbroic and/or metavolcanics substrates) are not mapped within the project. Vegetation communities mapped within the project area includes sage scrub habitat that may provide suitable habitat for this species. A site visit and focused survey is required to confirm presence or absence of this species.

8 ADDITIONAL SURVEY NEEDS AND PROCEDURES (SECTION 6.3.2)

A literature review was conducted of the environmental setting for the project site. The literature review provides a baseline from which to evaluate the biological resources potentially occurring within the study area, and within the local and regional vicinity. A list of special status plant and wildlife species and their habitats, known to occur near the project site was compiled. The primary source for this data was the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB 2019), which is a sensitive species and plant community database. Wood conducted a query of the CNDDB records based on a 5-mile radius surrounding the project site that included the *Beaumont, El Casco, Cabazon,* and *San Jacinto* California USGS 7.5-minute topographic quadrangle maps.

Additionally, a review of pertinent literature and database search was conducted, including records from the California Native Plant Society (CNPS 2019) on-line inventory database was also queried for the project site and vicinity. The CNPS on-line inventory provided additional sensitive species information for many species that have not been reported to the CNDDB database. The on-line Web Soil Survey (United States Department of Agriculture, Natural Resources Conservation Service [USDA NRCS] 2019), and the MSHCP Conservation Summary Generator and website (Western Riverside County 2019) were also queried for the project site and vicinity. The collective knowledge of Wood E&I staff was also utilized. Scientific nomenclature for this report is from the following standard reference sources: plant communities, Holland (1986); flora, Sawyer Keeler Wolf (1995); flora, Baldwin et al (2012) and Munz (1974); reptiles, Center for North American Herpetology (2014); mammals, California Department of Fish and Game, The California Natural Diversity Database; and, birds, American Ornithologists Union (2013).

8.1 Criteria Area Survey Species

The RCA MSHCP Information Map Generator indicates that the project area does not lie within WRCMSHCP Criteria Area plant species survey area (CASSA) (Figure 4). Wood biologists did not conduct a field visit. A review of the 1996 aerial view of the project site (googlearth.com, 2019) during a 'wet year' shows some ponded areas within the vicinity of the project area. Based on historical aerials, the project site does not likely have vernal pools present within the project site (i.e. adjacent to the earthen road). Additionally, based on the historical soils mapping the project site does not support any suitable soils for any of the CASSA plants; including the San Jacinto Valley crownscale (*Atriplex coronate* var. *notatior*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), thread-leaved brodiaea (*Brodiaea filifolia*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), round-leaved filaree (*California* (*Erodium*) *macrophylla*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mousetail (*Myosurus minimus* ssp. *apus*), and mud nama (*Nama stenocarpum*). Therefore, no additional focused surveys are required for narrow endemic plant species.

8.2 Amphibians

The RCA MSHCP Information Map Generator indicates that the project area is not within a sensitive amphibian survey area. Drainage features on site are ephemeral and will most likely not be considered suitable habitat for sensitive amphibian species.

8.3 Burrowing Owl

The project site is located within the WRCMSHCP designated burrowing owl (*Athene cunicularia*) (BUOW) survey area (see Appendix A, Figure 6). The burrowing owl is classified as a California Species of Special Concern (SSC) by California Department of Fish and Wildlife (CDFW) and sensitive by the Bureau of Land Management (BLM) and is protected under the federal Migratory Bird Treaty Act (MBTA). Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation and flat to moderate slopes with less than 30 percent canopy cover of trees and shrubs. In southern California, burrowing owls are not only found in undisturbed natural areas, but also fallow agricultural fields, margins of active agricultural areas, livestock farms, airports, and vacant lots. Burrows are the essential component of burrowing owl habitat. Both natural and artificial burrows provide protection, shelter, and nests for burrowing owls. Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels or badgers, but also may use manmade structures (also known as 'burrow surrogates'), such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement. In California, the species often occurs in association with colonies of the California ground squirrel (*Otospermophilus beecheyi*), where it makes use of the squirrel's burrows. The entrance of the burrow is often adorned with animal dung, feathers, debris, and other small objects. The species is active both day and night and may be seen perching conspicuously on fence posts or standing at the entrance of their burrows. Due to the characteristic fossorial habits of burrowing owls, nest burrows are a critical component of their habitat.

Wood biologists did not conduct a field visit. Based on the RCA mapping of vegetation on-site much of the site is grasslands habitat, which is known to be suitable habitat for the burrowing owl. An on-site habitat assessment and analysis of the project site in relation to burrowing owl habitat and whether current conditions support suitable burrowing owl habitat is required. All surveys (habitat assessment, focused burrow survey, focused surveys) will need to be conducted in accordance with WRCMSHCP Burrowing Owl Survey Instructions (RCA 2006).

8.4 Mammals

The RCA MSHCP Information Map Generator indicates that the project site does lie within one mammal species survey area, the Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) (LAPM). The LAPM is classified as an SSC species and prefers sandy soil for burrowing, is found on gravel washes and stony soils within coastal sage scrub habitats in Los Angeles, Riverside, and San Bernardino Counties. The LAPM is nocturnal and active late spring to early fall.

Wood biologists did not conduct a field visit. Based on the historical mapping of vegetation on site much of the site is non-native grasslands and/or alluvial habitat which is known to be suitable habitat for the Los Angeles pocket mouse. Known LAPM occurrences have been recorded in the general vicinity. Specifically, the nearest known CNDDB occurrence is approximately 1.9 miles southeast of the project area within the confluence of Montgomery and Smith Creeks; from about 0.3 to 1.5 miles southeast of West Westward Avenue at Lovell Street, South Banning, Riverside County.

An on-site habitat assessment and analysis of the project site in relation to Los Angeles pocket mouse habitat and whether current conditions support suitable LAPM habitat is required. All surveys (habitat assessment and focused surveys) will need to be conducted in accordance with an acceptable survey protocol approved by CDFW.

9 INFORMATION ON OTHER SPECIES

9.1 Delhi Sands Flower Loving Fly

The site does not occur within areas with mapped Delhi Sand soils. The United States Department of Agriculture National Resources Conservation Service (USDA NCRS) maintains an on-line searchable soils database, the Web Soil Survey (USDA 2015), which was consulted during the project literature search in order to determine the soil associations and soil types occurring on the project site. The following mapping units occur on the site (see Appendix A, Figure 7):

- Greenfield sandy loam, 2 to 8 percent slopes, (GyC2);
- Greenfield sandy loam soils, eroded, 8 to 15 percent slopes, (GyD2);
- Hanford coarse sandy loam soils, 2 to 8 percent slopes, (HcC);
- Ramona sandy loam soils 2 to 5 percent slopes, (RaB2);
- Ramona sandy loam soils, 8 to 15 percent slopes; (RaD3);
- Ramona sandy loam soils, severely eroded, 15 to 25 percent slopes; (RaE3);
- Riverwash, 0 to 8 percent slopes; (RsC); and

- Terrace escarpments, 30 to 75 percent; (TeG)

The NRCS does not list any of the soils within the project site as hydric soils.

9.2 Species Not Adequately Conserved

Of the 146 Covered Species addressed in the WRCMSHCP (Section 2.1.4 of the MSHCP), 128 species are adequately conserved (MSHCP, 2015). The remaining eighteen (18) Covered Species will be adequately conserved when conservation requirements are met as identified in the species-specific conservation objectives for those species. For ten (10) of the eighteen (18) species, (identified in WRCMSHCP Table 9-3), species-specific conservation objectives, must be satisfied to shift those species to the list of 'Covered Species Adequately Conserved'. For the remaining eight (8) species, a Memorandum of Understanding must be executed with the Forest Service that addresses management for these species on Forest Service Land in order to shift these species to the list of 'Covered Species Adequately Conserved'. The project site does not lie within and/or adjacent to USFS land.

It is presumed that sixteen of these eighteen species are absent and have no potential to occur on the project site due to lack of suitable habitat. One plant species: California muhly (Muhlenbergia californica), has a low potential to occur within the project area due to suitable habitat being mapped within the project area.

Mapped suitable nesting habitat lies within the project area for one bird species: the grasshopper sparrow (*Ammodramus savannarum*). The grasshopper sparrow prefers grasslands, old fields, and grassy slopes. This habitat has been mapped to occur onsite.

However, Wood biologists have not conducted an on-site field survey of the project area. A field survey is necessary to conclusively determine if suitable habitat is present on or adjacent to or absent from the project area for each of these species. Within the MSHCP areas suitable habitat is being set aside for conservation within targeted Core Areas. The project site does not lie within or adjacent to any of the Core Areas, no additional action is required.

Table 3 lists the Species Not Adequately Conserved, summarizes habitat requirements for each species, and potential for occurrence on the project site.

Table 3 – Species Not Adequately Conserved under the WRCMSHCP

Species*	Status	Habitat and Distribution	Occurrence Probability
Plants			
Dudleya viscida **Sticky-leaved dudleya**	F: None C: CSC CNPS RPR: 1B MSHCP: P	Perennial herb found in rocky areas in coastal bluff scrub, chaparral, coastal sage scrub; below 550 meters (1,800 feet) elevation. Orange and San Diego Counties	**Absent:** Project site elevation is 2,416 to 2,512 feet and therefore project site is outside elevational range for this species.
Galium californicum ssp. primum **California bedstraw**	F: None C: CSC CNPS RPR: 1B WRCMSHCP: P	Perennial herb found in granitic soils in chaparral and lower montane coniferous forest; 1,350 to 1,700 meters (4,400 to 5,600 feet).	**Absent:** Suitable habitat (granitic soils in chaparral and lower montane coniferous forest) is not mapped within the project area.
Heuchera hirsutissima **Shaggy-haired alumroot**	F: None C: CSC CNPS RPR: 1B WRCMSHCP: P	Rocky areas in upper montane and subalpine coniferous forest 1,830 to 3,500 meters (6,000 to 11,500 feet) elevation in Riverside County.	**Absent:** Project site elevation is 2,416 to 2,512 feet and therefore project site is outside elevational range for this species
Muhlenbergia californica **California muhly**	F: None C: CSC CNPS RPR: 1B WRCMSHCP: P	Streambanks, canyons, and other moist sites in chaparral, coastal sage scrub, coniferous forest, and meadows; 100 to 2,000 meters (300 to 6,600 feet) elevation; San Gabriel, San Bernardino, and San Jacinto Mountains.	**Low:** Marginal suitable habitat (drainage features coastal sage scrub habitat) has been historically mapped (RCA, 2012) within the project area for this species.
Mimulus clevelandii **Cleveland's bush monkeyflower**	F: None C: None CNPS RPR: 4.2	Found in chaparral, lower montane coniferous forest, and yellow pine forest habitats at 450 to 200 meters (1,475 to 6,600 feet elevation).	**Absent:** Suitable habitat (chaparral, lower montane coniferous forest, and/or yellow pine forest) has not been mapped within the project area.
Potentilla rimicola **Cliff cinquefoil**	F: None S: CSC CNPS RPR: 2 WRCMSHCP: P	Granitic crevices and rocky slopes in subalpine coniferous forest and upper montane coniferous forest at 2,400 to 2,800 meters (7,900 to 9,200 feet) elevation. In California, known only from the San Jacinto Mountains, Riverside County.	**Absent:** Project site elevation is 2,416 to 2,512 feet and therefore is outside elevational range for this species.
Lilium parryi **Lemon lily**	F: None S: CSC CNPS RPR: 1B WRCMSHCP: P	Bulbiferous perennial herb of wet areas in meadows and riparian and montane coniferous forests at 1,300 to 2,790 meters (4,300 to 9,200 feet) elevation. In California, known from Los Angeles, Riverside, San Bernardino, and San Diego Counties.	**Absent:** Project site elevation is 2,416 to 2,512 feet and therefore is outside elevational range for this species.
Deinandra mohavensis **Mojave tarplant**	F: None S: END CNPS RPR: 1B	Low sand bars in riverbeds, mostly in riparian areas or in ephemeral grassy areas, in riparian scrub and mesic chaparral at 850 to 1,600 meters (2,800 to 5,200 feet) elevation. Known from the San	**Absent:** Suitable habitat (low sand bars in riverbeds, riparian areas, riparian scrub) is not present on the project site. Nearest known occurrence is

	WRCMSHCP: P	Jacinto Mountains in Riverside County, and from San Diego and Kern Counties. Believed extirpated from San Bernardino County.	over three miles south/southwest of the project site.
Lilium humboldtii ssp. *oscellatum* **Ocellated Humboldt lily**	F: None S: None CNPS RPR: 4.2 WRCMSHCP: No	Found in openings within chaparral, cismontane woodland, coastal scrub, yellow pine forest, and riparian woodland at 30-1,800-meter (98 to 5,910) elevation.	**Absent:** Suitable habitat (openings in yellow pine forest and/or riparian woodland) is not mapped within the project area.
Birds			
Strix occidentalis **California spotted owl**	US: TH CA: CSC WRCMSHCP: P	Resident of old-growth forests. Cavity Nester.	**Absent.** Mapped vegetation i.e. suitable habitat (old growth forests) is not present for this species.
Ammodramus savannarum (nesting) **Grasshopper sparrow**	F: None S: CSC WRCMSHCP: P	Grasslands, agricultural fields, prairie, old fields and open savanna. Uncommon and local summer resident on grassy slopes and mesas west of the deserts. Only rarely in migration and in winter. Coastal Southern California.	**Low:** Suitable habitat (grasslands, agricultural fields, old fields, grassy slopes) has been historically mapped on site (RCA, 2012) for this species.
Melospiza lincolnii (breeding) **Lincoln's sparrow**	F: None S: CSC WRCMSHCP: P	Occurs in bogs, wet meadows, and riparian thickets, mostly in northern and montane areas. Winters in brushy areas, thickets, hedgerows, understory of open woodlands, forest edges, clearings, and scrubby areas.	**Absent:** Suitable habitat (riparian thickets, woodlands, forest edges) is not present for this species. Nearest known occurrence is over five miles from project site.
Sphyrapicus thyroideus **Williamson's sapsucker**	US: None WRCMSHCP: P	Occurs primarily in conifer forests (spruce, fir, and lodge pole pine). Winters in mostly pine and pine-oak woodlands in the mountains. Cavity nesters.	**Absent.** Suitable habitat (conifer forests) is not present for this species.
Reptiles			
Charina umbratica **Southern rubber boa**	US: – CA: ST WRCMSHCP: P	Found in montane conifer forest; near rock outcrops and woody debris in the San Bernardino and San Jacinto Mountains at 1,525 to 2,440 meters (5,000 to 8,000 feet) elevation.	**Absent:** Project site elevation is 2,416 to 2,512 feet and therefore is outside elevational range for this species.
Lampropeltis zonata (parvirubra) **California mountain kingsnake** (San Bernardino population)	F: None S: CSC WRCMSHCP: P	Occurs in well-illuminated canyons with rocky outcrops or rock talus in association with big cone spruce and various canyon chaparral species at lower elevations, and with black oak, incense cedar, Jeffrey pine, and ponderosa pine at higher elevations. Generally, occurs above 1,500 meters (4,900 feet) elevation in inland areas, but documented from elevations as low as 370 meters (1,200 feet.)	**Absent:** Project site elevation is 2,416 to 2,512 feet and therefore is outside elevational range for this species.

Lampropeltis zonata (pulchra) **San Diego mountain kingsnake**	F: None S: CSC WRCMSHCP: P	Occurs in the interior mountain ranges, this subspecies occurs primarily in associations of ponderosa, Jeffrey, and Coulter pine, and black oak. At lower elevations and in the coastal ranges, it occurs in riparian woodlands, usually in canyon bottoms, that have western sycamore, Fremont's cottonwood, coast live oak, willows, wild rose, poison oak, and blackberries. Found most commonly in the vicinity of rocks or boulders near streams or lake shores. Species has been documented from sea level to about 1,800 meters (5,900 feet) elevation.	**Absent:** Suitable habitat (riparian woodlands, canyon bottoms) is not present for this species.
Sceloporus graciosus vandenburgianus **Southern sagebrush lizard**	F: None S: None WRCMSHCP: P	Lives in shrub lands such as chaparral, manzanita, and ceaothus, as well as open pine and Douglas fir forests, mainly in the mountains. Prefers open areas with scattered low bushes, logs, rocks, or brush piles, and found basking on rocks and logs in full sun.	**Absent:** Suitable habitat (chaparral, manazanita, and ceanothus or open pine and Douglas fir forests has not been mapped within the project area.
Mammals			
Glaucomys sabrinus californicus San Bernardino flying squirrel	US: – CA: CSC WRCMSHCP: P	Inhabits a wide variety of woodland habitats primarily consisting of conifers, mixed coniferous-deciduous forest and occasionally broad-leaf-deciduous forest. Commonly found in white fir, coulter pine, Jeffrey pine, sugar pine, lodge pole pine forests, and ponderosa pine forest. May occur in hardwoods where old or dead trees have numerous woodpecker-type nesting holes. Requires nearby water. Occurs at elevations between 1,200 to 2,560 meters (4,000 to 8,400 feet) in the San Bernardino and San Jacinto Mountains.	**Absent:** Project site elevation is 2,416 to 2,512 feet and therefore is outside elevational range for this species.

9.3 Drainages and/or Jurisdictional Waters

The project site has clearly defined riparian/riverine areas, which area also likely to be considered drainage features under USACE, CDFW, and RWQCB. Wood wetland specialist have not conducted a site visit. Based on the literature review confluences of Smith Creek split from the northeastern corner of the project area and scattered into three drainage features through the site. Based on the aerial of the project area, the Project Design, and the historically mapped vegetation (see Appendix A, Figure 3 through Figure 5) the realignment of Sun Lakes Blvd will be crossing at least three drainage features (tributaries) associated with Smith Creek.

A jurisdictional delineation is required to access the impacts (if any) to drainage features and riparian/riverine areas within the project site.

9.4 Migratory Bird Treaty Act and Section 3503 of California Fish and Game Code

The project site contains suitable nesting habitat for nesting songbirds and raptors protected under the MBTA such as killdeer (*Charadrius vociferous*), horned lark (*Eremophila alpestris*), red-tailed hawk (*Buteo jamaicensis*), and loggerhead shrike (*Lanius ludovicianus*). Impacts to nesting birds, both direct and indirect, can be minimized or eliminated by conducting work activities outside of the breeding season. Although some nesting birds can occur year-round in Southern California, typical avian breeding season is from February 1 through August 31, so it is recommended to schedule work between September 1 and January 31 to avoid nesting activity.

If work must be done during the nesting season, the project site and adjacent areas should be examined by a qualified biologist prior to disturbance, especially where there may be know nesting activity. If active nests are found, the nests should be avoided, and a no disturbance buffer zone established and observed until young have fledged. While there is no established protocol for nest avoidance and buffer zones, when consulted, the CDFW generally recommends avoidance buffers of 500 feet for raptors and listed species and 100–300 feet for other unlisted birds. Nest avoidance and buffer zones are decided on a case by case basis by the biological monitor and can sometimes be reduced depending on a variety of factors including topography, vegetation structure, the species in question, and avian behavior. Construction activity may encroach into the buffer area at the discretion of the biological monitor with CDFW concurrence.

10 GUIDELINES PERTAINING TO THE URBAN/WILDLANDS INTERFACE (SECTION 6.1.4)

According to the WRCMSHCP, the Urban/Wildlands Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the WRCMSHCP Conservation Areas (WRCMSHCP, pages 6-42). The nearest proposed Core Linkage is two miles southwest of the project site. Thus, the project will not require design features to minimize potentially significant impacts associated with the Urban/Wildlands interface and/or will not need to incorporate Urban/Wildlife Interface Guidelines during construction.

11 BEST MANAGEMENT PRACTICES (VOLUME I, APPENDIX C)

Standard best management practices (BMP) should be implemented to avoid impacts to biological resources. The Sun Lakes Blvd. Realignment Project (project site) is currently undeveloped, with no existing structures, and vegetation that is a mosaic of coastal sage scrub, grassland, and riparian woodland habitats. Per the city of Banning request 'a "desktop" level review was performed; and based on this level of review focused survey(s) recommendations will need to be determined following a site visit to determine if suitable habitat for burrowing owl and/or NEPSSA plants is present. A jurisdictional delineation of drainage features that are present within the project are will address any sensitive habitat and/or habitat present for species who may occur within the drainage features and/or near a drainage feature that may be present within the project area as well as if additional permits from other agencies (i.e. California Department of Fish and Game or Regional Water Quality Control Board or Army Corps of Engineers) are required prior to construction. Other standard best management practices (BMP) should be implemented to avoid impacts. These would include trash management, project speed limits, and dust control measures.

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APPENDIX A
FIGURES

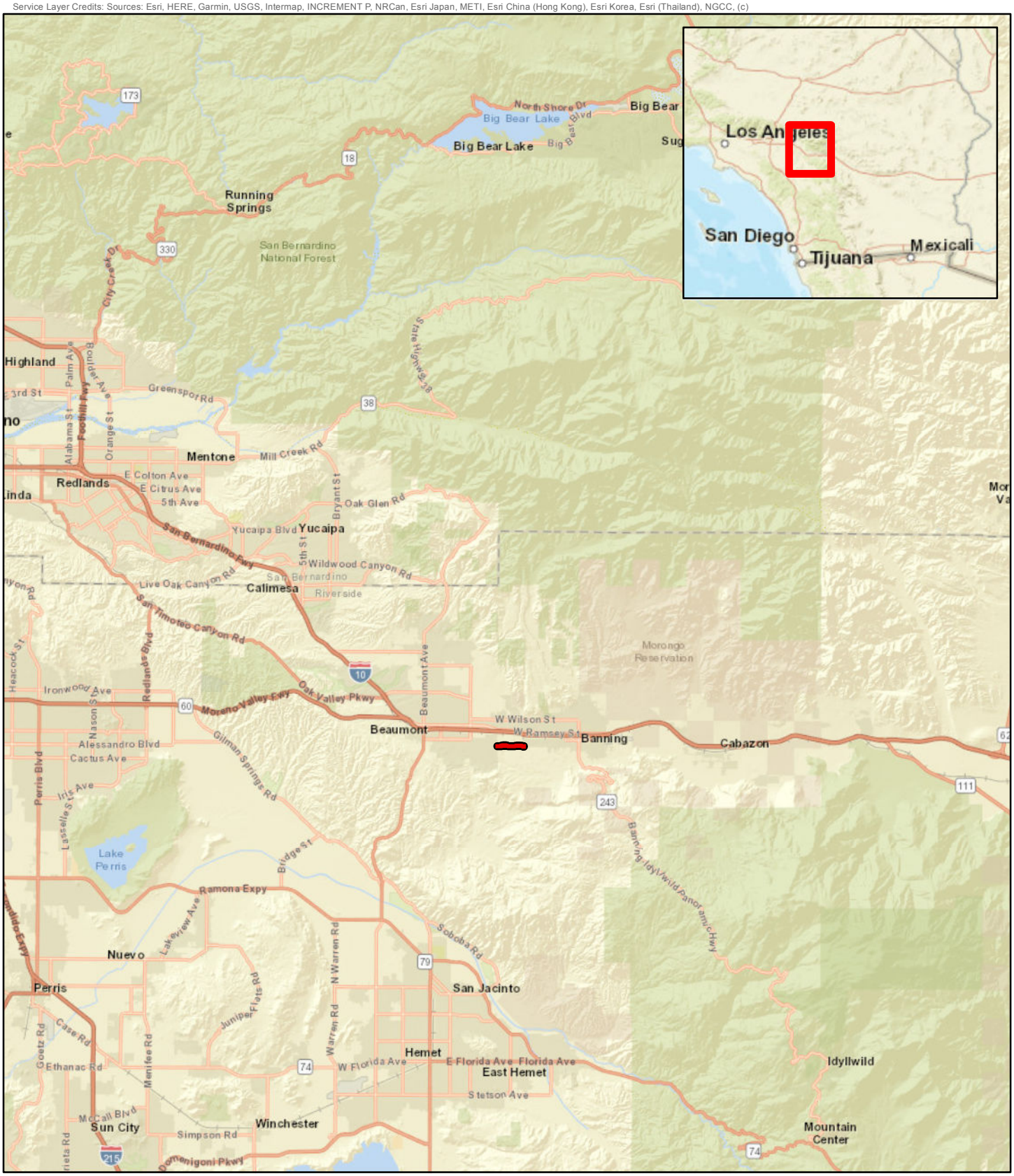
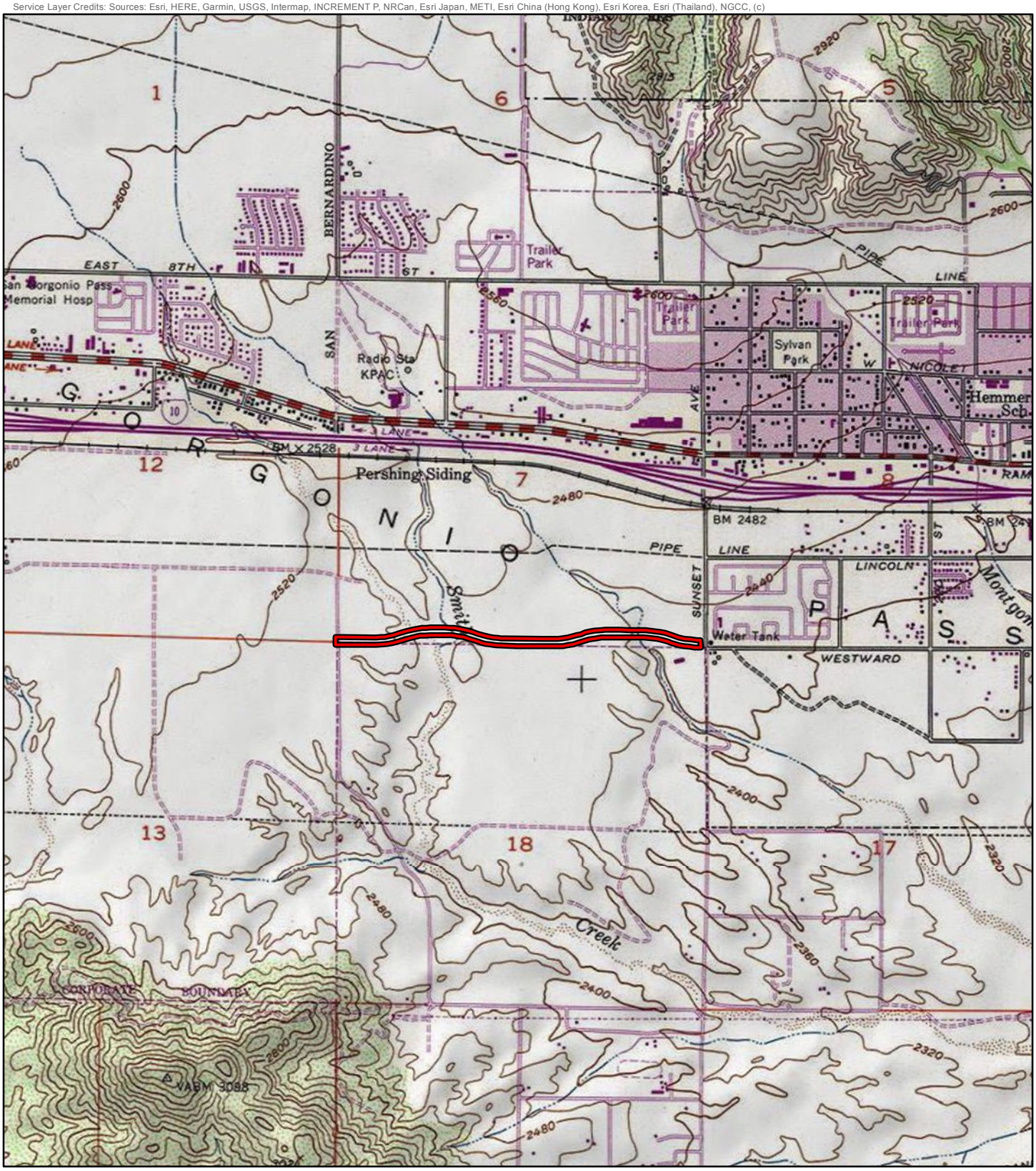


FIGURE 1

Project Vicinity and Location
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA



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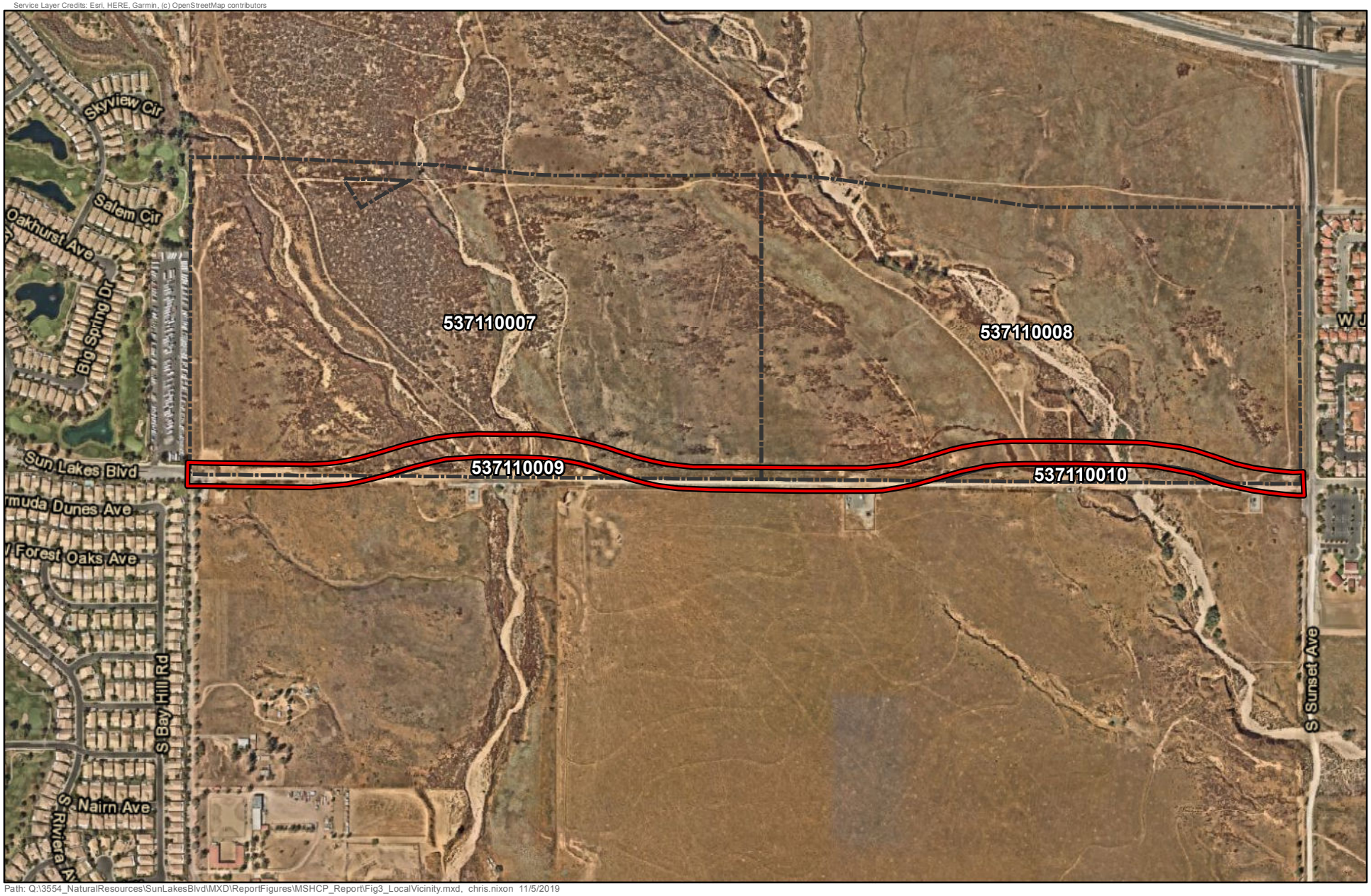
1 inch = 2,000 feet
0 1,000 2,000 Feet

wood.

Project Alignment

FIGURE 2

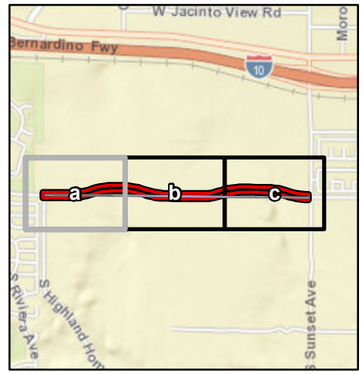
Project Location on USGS Topographic Map
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA



wood.

FIGURE 3

Local Vicinity
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA



Project Alignment

1 inch = 150 feet

0 150 Feet

FIGURE 4a

Proposed Project Alignment
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

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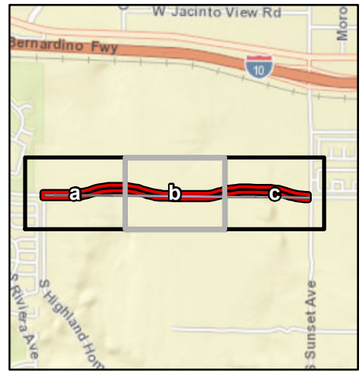

Project Alignment

1 inch = 150 feet

0 150 Feet

FIGURE 4b

Proposed Project Alignment
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

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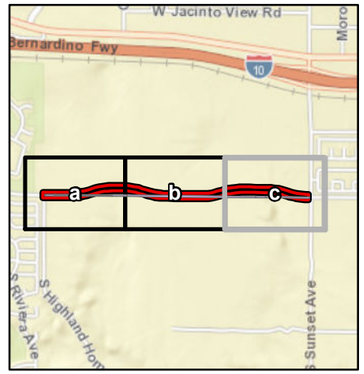

Project Alignment

1 inch = 150 feet

0 150 Feet

FIGURE 4c

Proposed Project Alignment
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

Service Layer Credits: Nearmap, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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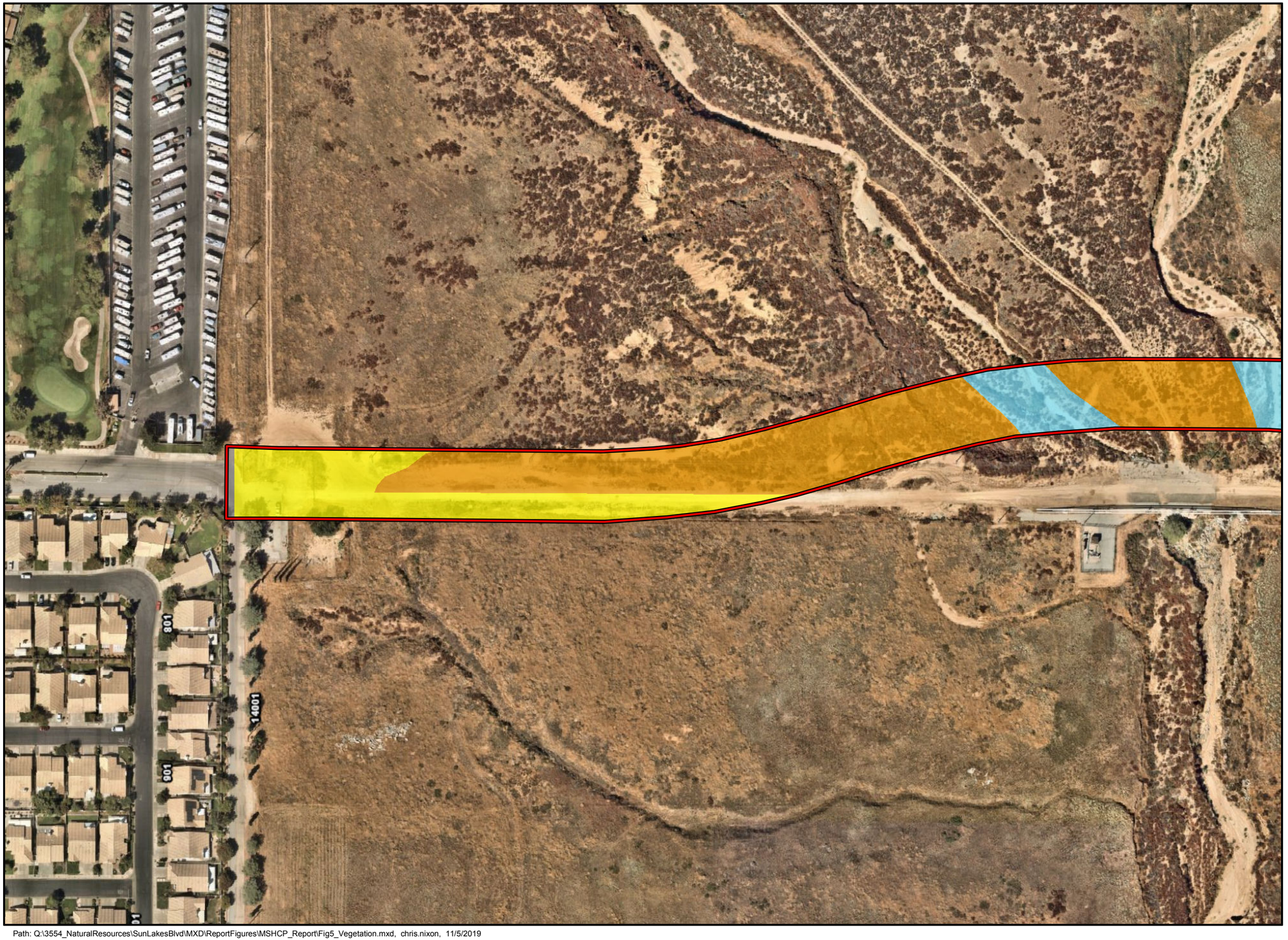

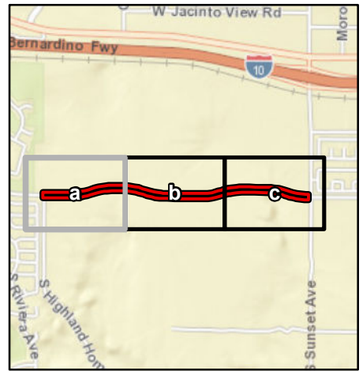

Project Alignment

Vegetation Communities

- Coastal Sage Scrub
- Grassland
- Water
- Developed/Disturbed Land

1 inch = 150 feet

0 150 Feet

FIGURE 5a

Vegetation Communities
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

Service Layer Credits: Nearmap, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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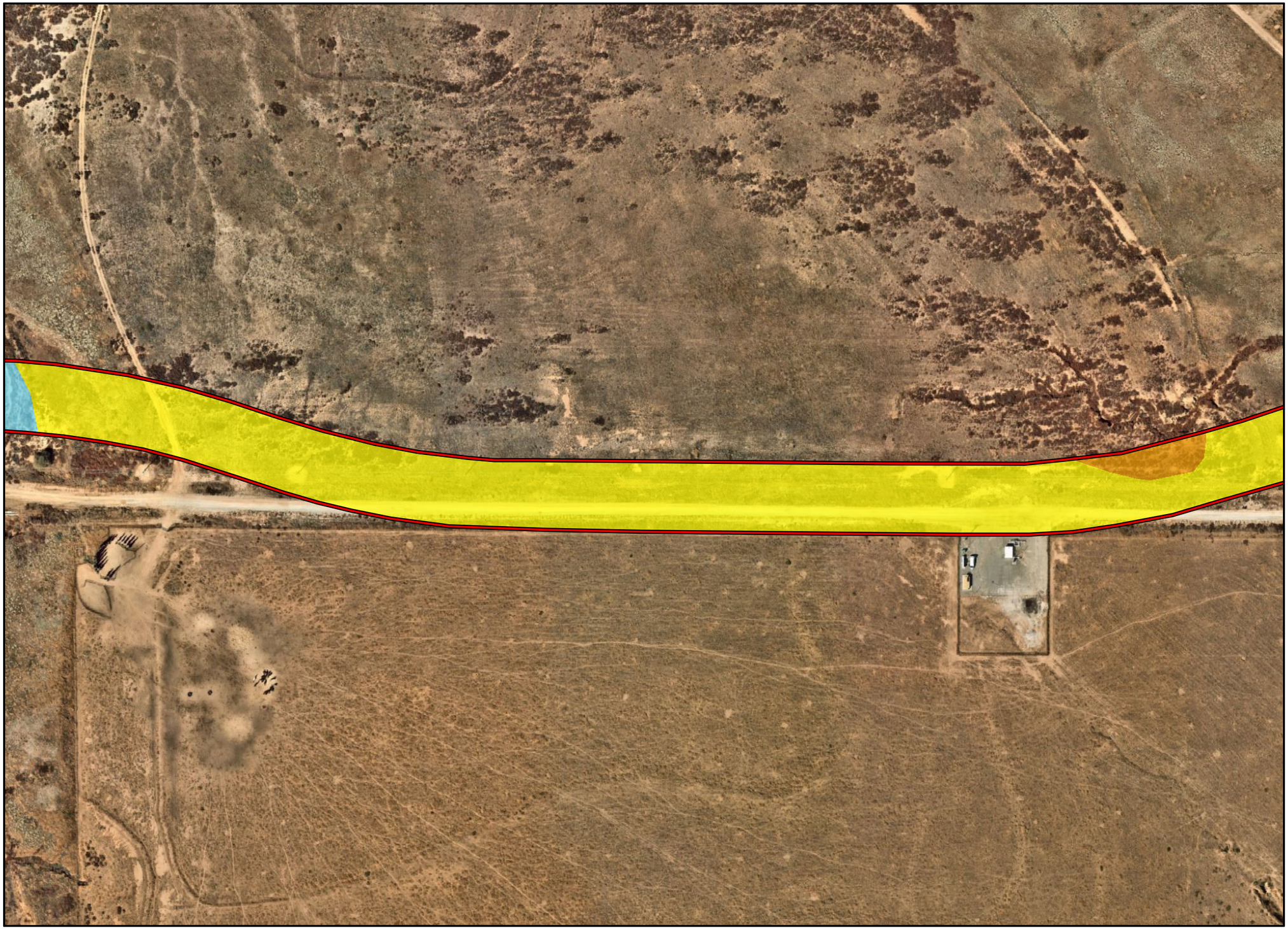
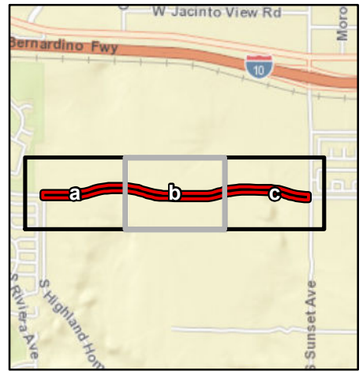




Project Alignment

Vegetation Communities

Coastal Sage Scrub

Grassland

Water

1 inch = 150 feet

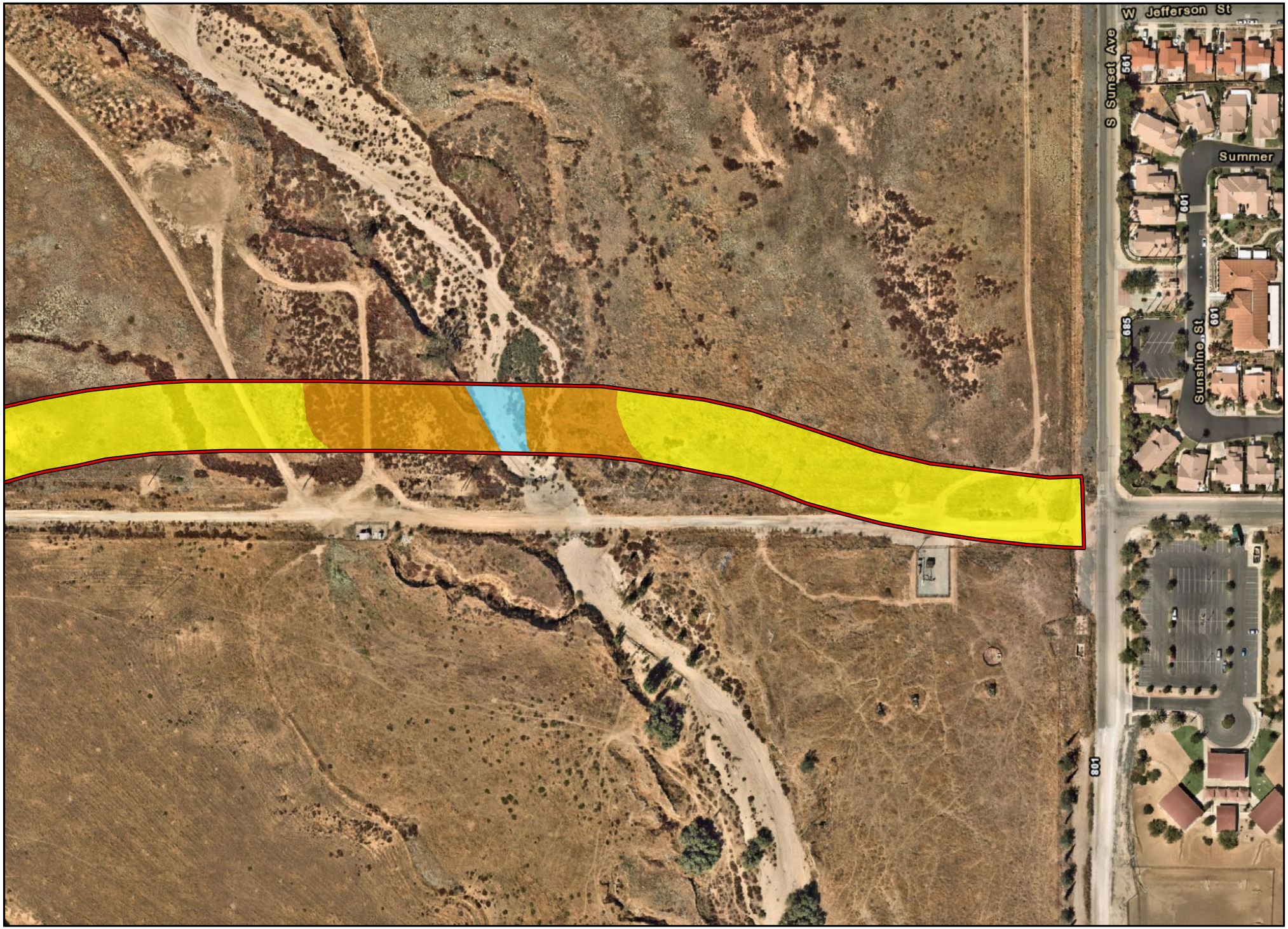
0 150 Feet

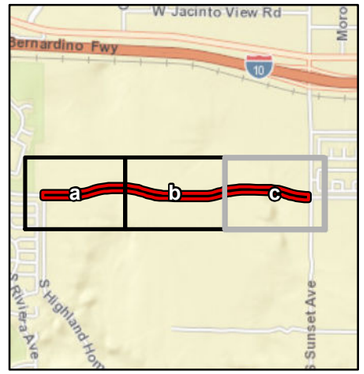
FIGURE 5b

Vegetation Communities
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

Path: Q:\3554_NaturalResources\SunLakesBlvd\MXD\ReportFigures\MSHCP_Report\Fig5_Vegetation.mxd, chris.nixon, 11/5/2019





Project Alignment

Vegetation Communities

- Coastal Sage Scrub
- Grassland
- Water

1 inch = 150 feet

0 150 Feet

FIGURE 5c

Vegetation Communities
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

Service Layer Credits: Nearmap, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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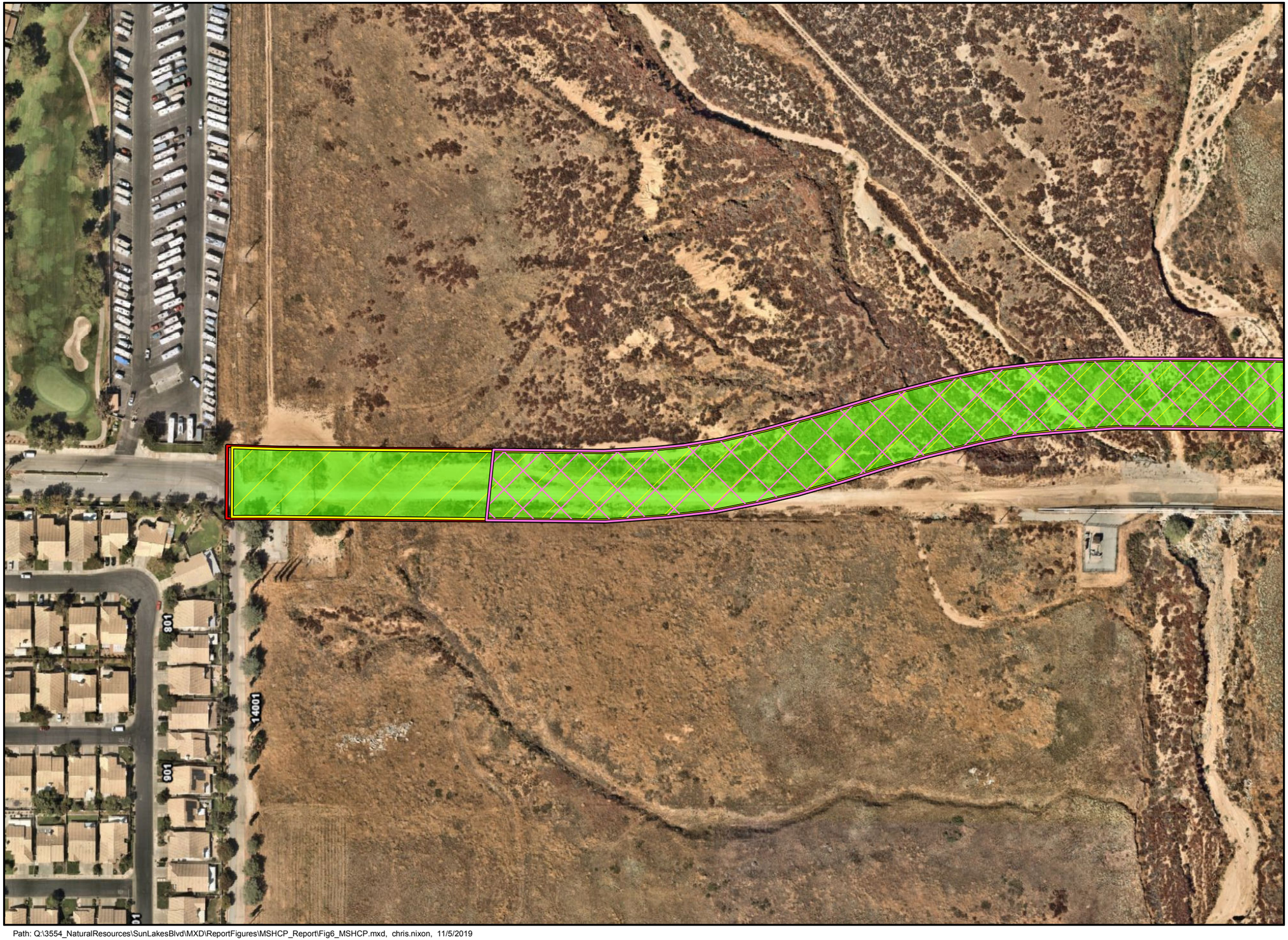

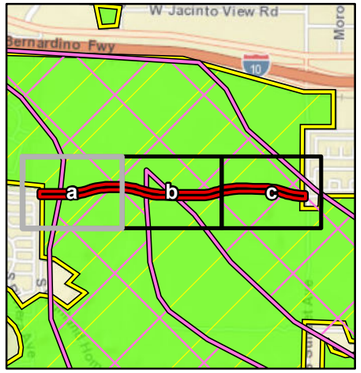

Project Alignment

MSHCP L.A. Pocket Mouse Survey Area

MSHCP Burrowing Owl Survey Area

San Diego Ambrosia (*Ambrosia pumila*), Brand's Phacelia (*Phacelia stelllaris*), San Miguel Savory (*Satureja chandleri*)

1 inch = 150 feet

0 150 Feet

FIGURE 6a

WRCMSHCP Survey Map
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

Service Layer Credits: Nearmap, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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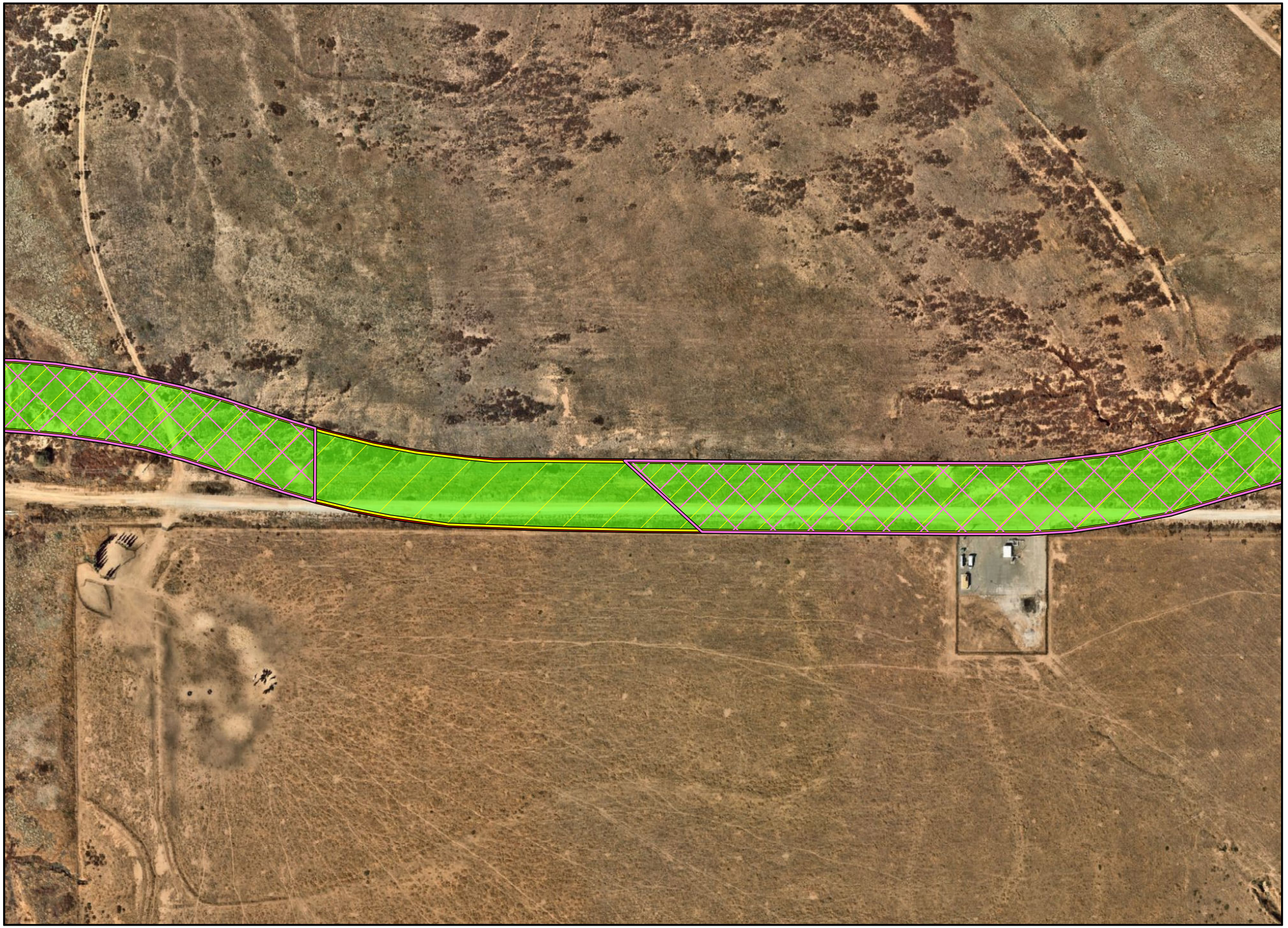

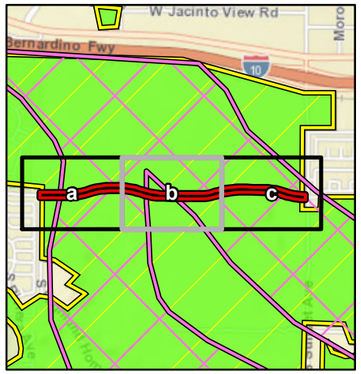

Project Alignment

MSHCP L.A. Pocket Mouse Survey Area

MSHCP Burrowing Owl Survey Area

San Diego Ambrosia (*Ambrosia pumila*), Brand's Phacelia (*Phacelia stelllaris*), San Miguel Savory (*Satureja chandleri*)

1 inch = 150 feet

0 150 Feet

FIGURE 6b

WRCMSHCP Survey Map
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

Service Layer Credits: Nearmap, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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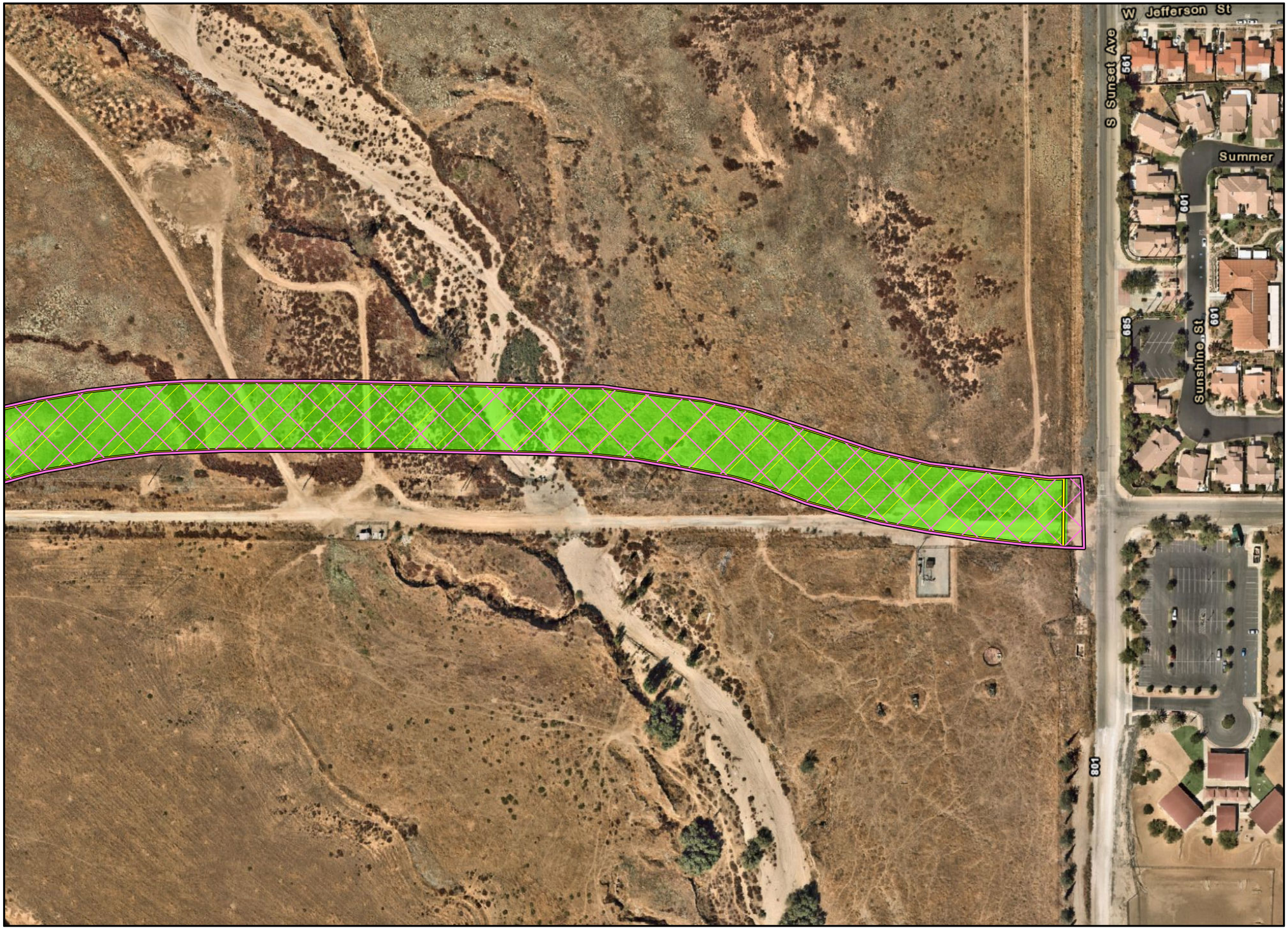

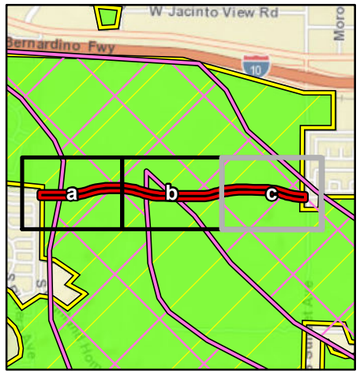

Project Alignment

MSHCP L.A. Pocket Mouse Survey Area

MSHCP Burrowing Owl Survey Area

San Diego Ambrosia (*Ambrosia pumila*), Brand's Phacelia (*Phacelia stellaris*), San Miguel Savory (*Satureja chandleri*)

1 inch = 150 feet

0 150 Feet

FIGURE 6c

WRCMSHCP Survey Map
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

Service Layer Credits: Nearmap, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Project Alignment

Soil Types

- RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaD3 - Ramona sandy loam, 8 to 15 percent slopes, severely ero ded
- RsC - Riverwash
- TeG - Terrace escarpments

1 inch = 150 feet

0 150 Feet

FIGURE 7a

Soil Types
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

Service Layer Credits: Nearmap, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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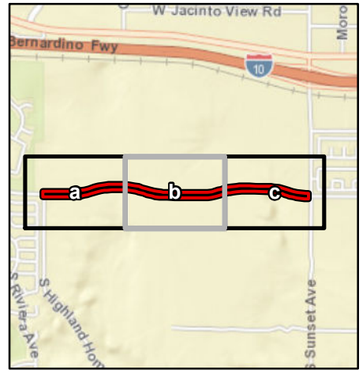

Project Alignment

Soil Types

- GyD2 - Greenfield sandy loam, 8 to 15 percent slopes, eroded
- RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaD3 - Ramona sandy loam, 8 to 15 percent slopes, severely ero ded
- RaE3 - Ramona sandy loam, 15 to 25 percent slopes, severely er oded
- RsC - Riverwash

1 inch = 150 feet

0 150 Feet

FIGURE 7b

Soil Types
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

Service Layer Credits: Nearmap, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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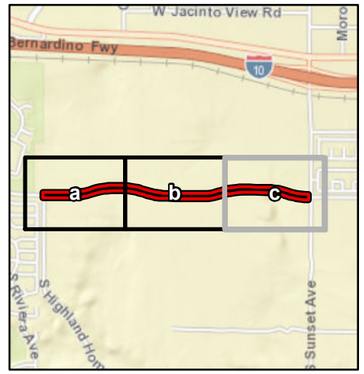

Project Alignment

Soil Types

- GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaD3 - Ramona sandy loam, 8 to 15 percent slopes, severely ero ded
- RaE3 - Ramona sandy loam, 15 to 25 percent slopes, severely er oded
- TeG - Terrace escarpments

1 inch = 150 feet

0 150 Feet

FIGURE 7c

Soil Types
MSHCP Consistency Report
Sun Lakes Blvd. Realignment Project
Banning, CA

wood.

Service Layer Credits: Nearmap, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Applied EARTHWORKS Inc.
3550 E. Florida Ave., Suite H
Hemet, CA 92544-4937
O: (951) 766-2000 | F: (951) 766-0020

November 6, 2019

Ms. Stephanie Standerfer, Vice President
Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506
Transmitted via email to stephanie.standerfer@webbassociates.com

RE: Cultural Resource Constraints Analysis for the Sun Lakes Boulevard Realignment, City of Banning, Riverside County, California

Dear Ms. Standerfer:

This letter report, prepared by Applied EarthWorks, Inc. (Æ) on behalf of Albert A. Webb Associates, summarizes the results of the cultural resource constraints analysis in support of an Initial Study/Mitigated Negative Declaration (IS/MND) for the Sun Lakes Boulevard Realignment (Project) on approximately 13.65 acres of land within Assessor's Parcel Numbers 537-110-007, -008 and -009 in the City of Banning (City), Riverside County, California (Figure 1).

The proposed Project involves the eastward extension of Sun Lakes Boulevard from its current eastern termination point at South Highland Home Road along Westward Avenue to the anticipated connection at Sunset Avenue within Sections 12 and 13 of Township 3 South, Range 1 West, and Sections 7, 8, 17, and 18 of Township 3 South, Range 1 East, San Bernardino Baseline and Meridian, as shown on the Beaumont and Cabazon, California 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle maps (Figure 2). Maximum depth of Project ground-disturbing-activities is approximately 3 feet below ground surface. The City is the lead agency for compliance with the California Environmental Quality Act (CEQA).

CULTURAL RESOURCE RECORDS SEARCH AND LITERATURE REVIEW

On September 16, 2019, Æ conducted an archaeological literature and records search at the Eastern Information Center (EIC) of the California Historical Resource Information System (CHRIS), housed at the University of California, Riverside. The objective of this records search was to determine whether any prehistoric or historical cultural resources have been recorded previously within the Project area surrounded by a 1-mile-wide buffer zone (Study Area). The records search indicated 16 cultural resource investigations have been conducted previously within the Study Area (Table 1). Four of these investigations specifically involved portions of the Project area. As a result,100 percent of the Project area has been previously studied.

These previous investigations resulted in the identification of a total of 44 cultural resources in the Study Area (Table 2). Eight are archaeological and 36 are built-environment resources. The archaeological resources all date to the historic period—one isolated concrete chute remnant, three water-conveyance systems, two refuse scatters, foundations, and a segment of the old Banning Trade Route/6th Street. The 36 built-environment resources include historical houses, commercial buildings, and a segment of the Union Pacific Railroad. Portions of two of these resources are documented within the Project area. These resources are described in more detail below.

Table 1
Previous Cultural Resource Investigations in the Study Area

Author(s)	Date	EIC Reference #	Title
Greenwood, Roberta S.	1975	RI-00161	Paleontological, Archaeological, Historical, and Cultural Resources, West Coast-Midwest Pipeline Project, Long Beach to Colorado River
Chace, Paul G. and Don Laylander	1980	RI-00816	An Archaeological and Historical Assessment of Areas 1 and 4 of Amendment Number 1 to the Banning Downtown Redevelopment Project
Scientific Resource Surveys, Inc.	1986	RI-01432	Archaeological Report on Grading Monitoring Activities at Stewart Ranch, Riverside County, California
Scientific Resource Surveys, Inc.	1985	RI-01433	An Historical Study of Stewart Ranch in Riverside County, California
Scientific Resource Surveys, Inc.	1981	RI-01434	Cultural Resources Report on 900 Acres Parcel (Portion of the Old Stewart Ranch) Located in the Banning/ Beaumont Area, Riverside County, California
Apple, Rebecca McCorkle, and Jan E. Wooley	1988	RI-02350	MCI Rialto to El Paso Fiber Optics Project - Intensive Cultural Resource Survey - San Bernardino and Riverside Counties, California
White, Robert S.	1990	RI-03039	An Archaeological Assessment of the "Sunset Crossing" Project, A 294.8 Acre Parcel as Shown on TPM 25541, Located Immediatly South of the I-10 Freeway at Sunset Avenue in Banning, Riverside County, California.
Michael Brandman Associates	2004	RI-04720*	Phase I Cultural Resource Survey and Historic Site Significance Evaluations for the Sunset Crossing Project Footprint, South Banning Area, County of Riverside, California
Tang, Bai "Tom," Josh Smallwood, and Melissa Hernandez	2007	RI-07339*	Identification and Evaluation of Historic Properties: Wastewater Treatment Plant Expansion and Recycled Water System, City of Banning, Riverside, California
McLean, Roderic, Shannon Carmack, Jay Michalsky, and Judith Marvin	2006	RI-07970*	A Study of the Past in San Timoteo Canyon and San Gorgonio Pass: Cultural Resource Assessment Oak Valley Substation Project, Riverside County
McLean, Robert, Shannon Carmack, Jay Michalsky, and Judith Marvin	2008	RI-08011	Final Cultural Resources Assessment, Study of the Past in San Timoteo Canyon and San Gorgonio Pass: Oak Valley Substation Project Riverside County
McLean, Roderic, Shannon Carmack, Phil Fulton, Maria Aron, Jay Michalsky, Daniel Ewers, Casey Tibbet, and Brook Smith	2008	RI-08012	Supplemental Cultural Resource Assessment, Oak Valley Substation Project, San Bernardino and Riverside Counties
Bonner, Wayne H., and Arabesque Said	2009	RI-08315	Letter Report: Cultural Resource Records Search and Site Visit Results for T-Mobile USA Candidate IE04452A, 2909 West Lincoln Street, Banning, Riverside County, California

Table 1
Previous Cultural Resource Investigations in the Study Area

Author(s)	Date	EIC Reference #	Title
Tang, Bai "Tom," Michael Hogan, Josh Smallwood, and Terri Jacquemain	2004	RI-08449*	Cultural Resources Technical Report City of Banning General Plan
Brunzell, David	2013	RI-09540	Cultural Resources Assessment Rancho San Gorgonio Planned Community Project City of Banning, Riverside County, Riverside County, California
McKenna, Jeanette A.	2018	RI-10478	A Phase I CEQA/Class III NEPA (NHPA Section 106) Investigation for the 6th/Maple Septic Conversion Project in the City of Beaumont, Riverside Co., California

*Investigations that involved portions of the Project area.

Table 2
Cultural Resources within the Study Area

Primary	Trinomial	Description
Isolated Historical Finds		
33-025808		Remnants of a concrete chute
Historic Archaeological Sites		
33-013779*	CA-RIV-7544	Water-control system
33-014366	CA-RIV-7815	Water-diversion system
33-014367	CA-RIV-7816	Foundations and structural pads
33-014368	CA-RIV-7817	Refuse scatter
33-025805		Refuse scatter
33-025806		Remnants of a water-conveyance system
33-028614		Segment of old Banning Trade Route/6th Street
Built Environment		
33-009100		1933 Log house
33-009176		1920 Craftsman bungalow (this resource is within 33-13778)
33-009498	CA-RIV-6381	Union Pacific Railroad
33-013778*		Ranch house and barn complex
33-015818		California Ranch style house
33-015819		California Ranch style house
33-015820		1920 Craftsman bungalow
33-015821		California Ranch style house
33-015822		California Ranch style house
33-015823		California Ranch style house
33-015825		California Ranch style house
33-015826		California Ranch style house
33-015827		California Ranch style house
33-015828		California Ranch style house

Table 2
Cultural Resources within the Study Area

Primary	Trinomial	Description
33-015829		California Ranch style house
33-015830		California Ranch style house
33-015831		California Ranch style house
33-015833		Minimal Traditional duplex family property
33-015835		California Ranch style house
33-015837		California Ranch style house
33-015838		California Ranch style house
33-015839		Vernacular style commercial building
33-015840		Vernacular style house
33-015841		California Ranch style house
33-015842		California Ranch style house
33-017729		Vernacular style single house
33-017735		Vernacular style single house
33-017736		1950s Single family property
33-017737		Vernacular style farm property
33-017738		1960s L-shaped commercial building
33-017739		1950s commercial building
33-017742		1950s cinder block commercial building
33-017743		1950s commercial building complex
33-017744		1960s commercial building complex
33-017745		1960s commercial building complex
33-017748		Late 1950s commercial building complex

* Cultural resources within the Project area.

- Site 33-013778 is a large farm/ranch complex, which includes five foundations, two Craftsman structures and a barn. As documented by Michael Brandman Associates (Taniguchi and Dice 2004), the five foundations are located on the west side of 33-013778 within the Project area. The Craftsman structures and the barn are located on the east side of the site and outside of the Project area. Only the west half of this site has been evaluated formally for listing on the California Register of Historical Resources (CRHR) and the National Register of Historic Places (NRHP). The portion of the site within the Project area was recommended ineligible for nomination to the NRHP and CRHR (Taniguchi and Dice 2004).

- Site 33-013779 (CA-RIV-7544) is a large historic water-control complex consisting of 36 features. Some of these features are located within the Project area. Also documented by Michael Brandman Associates (Messick and Dice 2004), this site was evaluated formally and recommended as ineligible for listing on the NRHP and CRHR.

In addition to the EIC research, Æ also consulted the 1901 San Jacinto 30-minute USGS topographic quadrangle map, the 1943 and 1956 Banning 15-minute USGS topographic quadrangle maps, and the 1953 Beaumont 7.5-minute USGS topographic quadrangle map to assess historical land uses in the Study Area. The1953 Beaumont 7.5-minute USGS topographic quadrangle map exhibits two houses and

outbuildings outside the Project area to the south on the corner of Sunset Avenue and Westward Avenue. The same structures are also on the 1956 Banning 15-minute USGS topographic quadrangle map. No structures, roads, or other features of historical interest are shown within, or in the vicinity of, the Project area on any of the reviewed historical maps.

SACRED LANDS FILE SEARCH

Æ contacted the Native American Heritage Commission (NAHC) on September 13, 2019, for a review of the Sacred Lands File (SLF) to determine if any known Native American cultural properties (e.g., traditional use or gathering areas, places of religious or sacred activity) are present within or adjacent to the Project area. The NAHC responded on September 24, 2019, stating the SLF search was completed with negative results. The NAHC provided a list of Native American individuals and organizations for follow-up to elicit information and/or concerns regarding cultural resource issues related to the Project, if any. Results of the NAHC SLF search and Native American contact list are included in Attachment 1.

MANAGEMENT RECOMMENDATIONS

Æ's records search indicates approximately 100 percent of the Project area was studied previously and portions of two previously documented cultural resources, built-environment resource 33-013778 (farm/ranch complex) and historical archaeological site CA-RIV-7544 (water-control system) are located within the Project area.

The western portion of site 33-013778 (west of Sunset Avenue) is within the eastern corner of the Project area and was previously evaluated and recommended ineligible for listing on the NRHP and CRHR (Taniguchi and Dice 2004). The parts of the water-control system (CA-RIV-7544) within the Project area were also previously evaluated and recommended as ineligible for listing on the NRHP and CRHR (Messick and Dice 2004). No prehistoric cultural resources are documented within the Study Area, and the SLF search was completed with negative results. The maximum depth of the Project's ground-disturbing activities will not exceed 3 feet bgs. Based on these findings, Æ suggests no historic properties (NRHP-eligible) or historical resources (CRHR-eligible) are present and no further cultural resource management is recommended for the Project area.

If you have any questions or concerns regarding the information provided above, please feel free to contact me at (951) 766-2000.

Best regards,

Kholood Abdo, M.A., RPA
Associate Archaeologist
Applied EarthWorks, Inc.

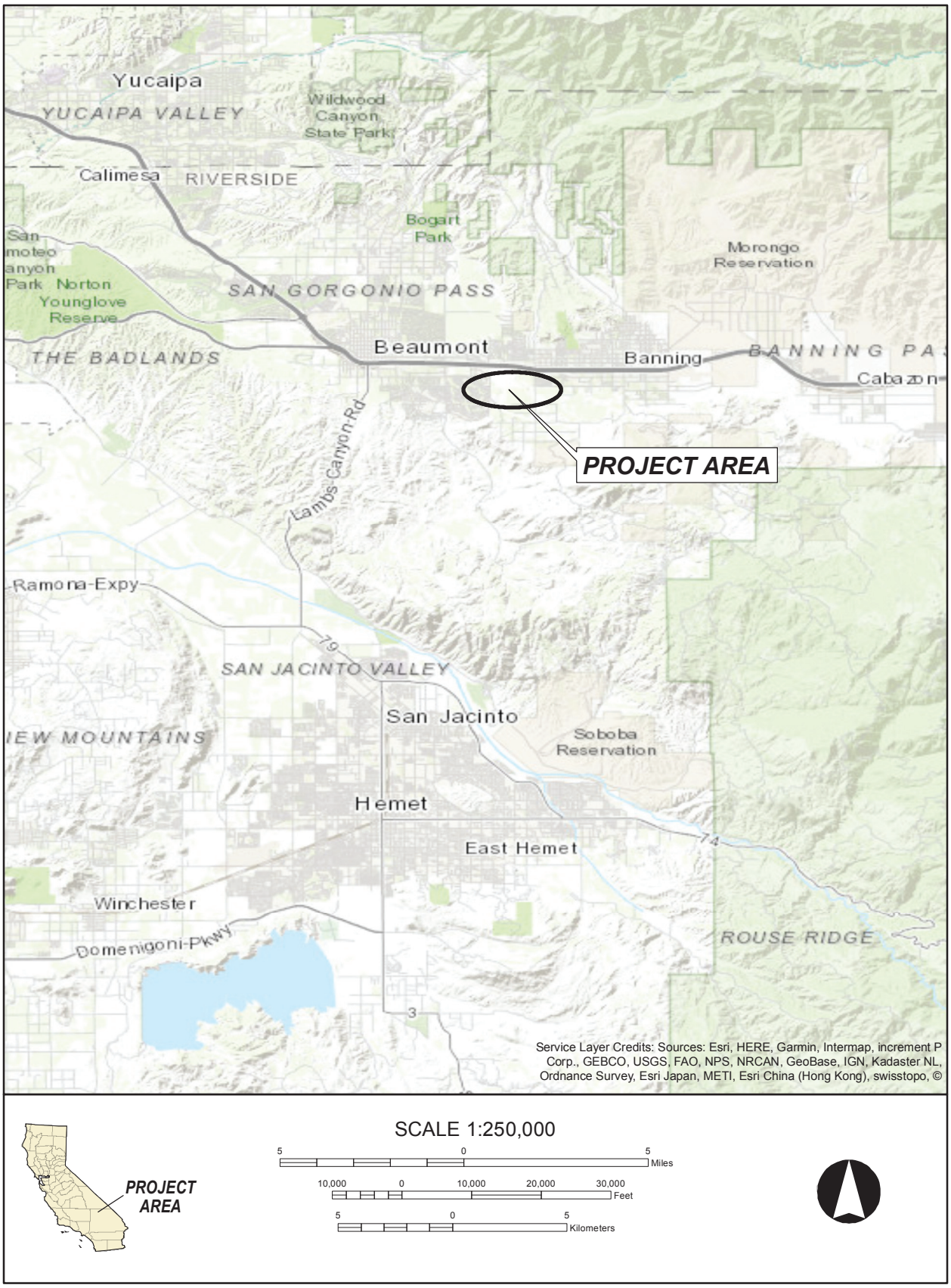

Figure 1 Project vicinity map.

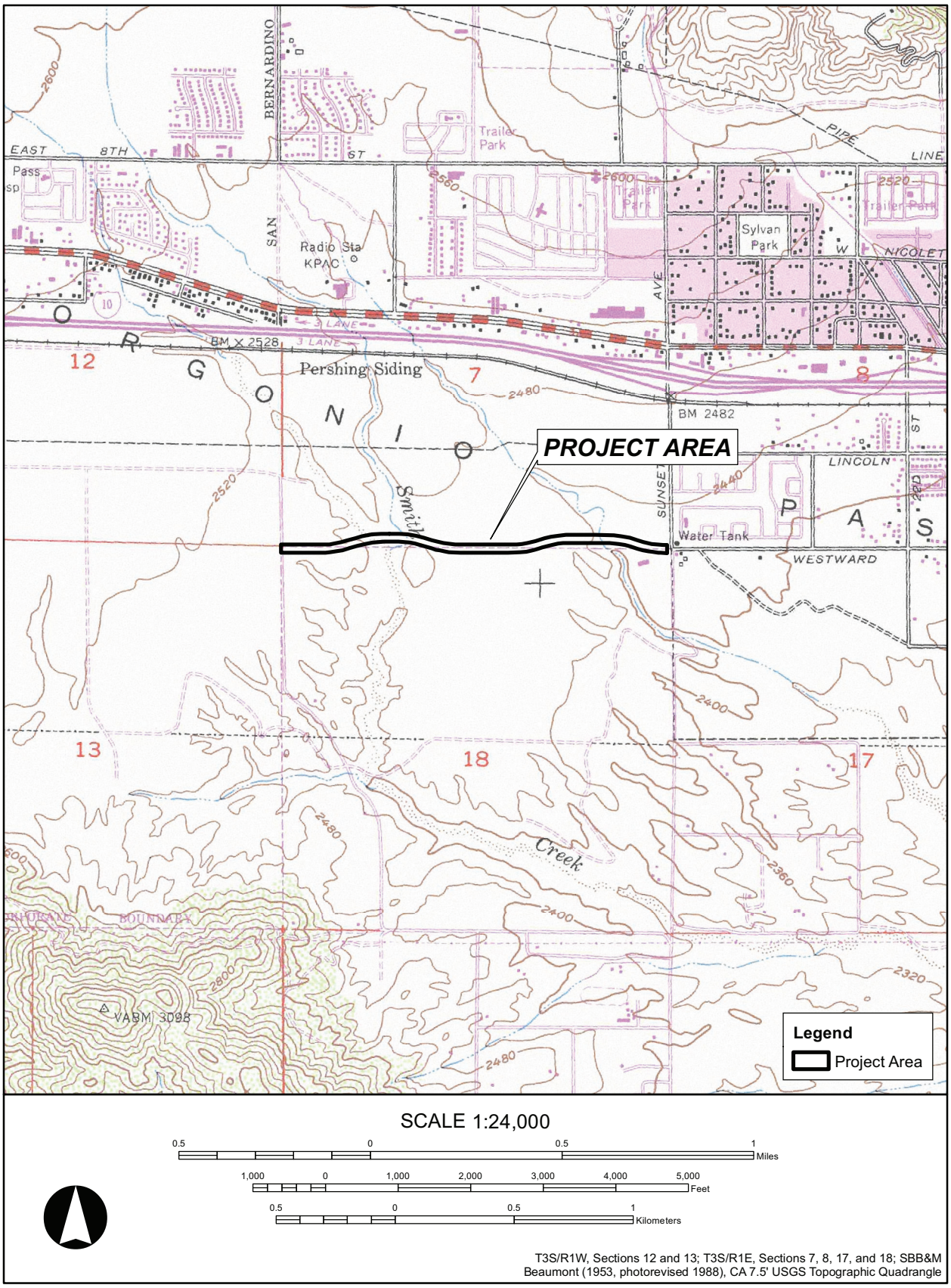

Figure 1-2 Project location map.

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2004 Department of Parks and Recreation Series 523 forms for 33-013778. On file at the Eastern Information Center, at University of California, Riverside.

ATTACHMENTS

NAHC SLF Results

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
916-373-3710
916-657-5390 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Date: 9/13/2019

Project: Sun Lakes Boulevard Realignment Project (AE# 4093)

County: Riverside County

USGS Quadrangle Name: Beaumont

Township: 3 South **Range:** 1 East **Section(s):** 7 & 18

Company/Firm/Agency: Applied EarthWorks, Inc.

Contact Person: Kholood Abdo

Street Address: 3550 East Florida Avenue, Suite H

City: Hemet **Zip:** 92544

Phone: (951) 766-2000

Fax: (951) 766-0020

Email: kahintzman@appliedearthworks.com

Project Description:

The proposed Sun Lakes Boulevard extension Project in the City of Banning, CA will result in ground disturbance. Applied EarthWorks, Inc. has been contracted to conduct a cultural resource study of the Project area for compliance with the California Environmental Quality Act (CEQA).

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

September 24, 2019

Kholood Abdo
Applied EarthWorks

VIA Email to: kahintzman@appliedearthworks.com

RE: Sun Lakes Boulevard Realignment Project, Riverside County

Dear Ms. Abdo:

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 the NAHC. 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: steven.quinn@nahc.ca.gov.

Sincerely,

Steven Quinn
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Riverside County
9/24/2019

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Agua Caliente Band of Cahuilla Indians
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Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Augustine Band of Cahuilla Mission Indians
Amanda Vance, Chairperson
P.O. Box 846 — Cahuilla
Coachella, CA, 92236
Phone: (760) 398 - 4722
Fax: (760) 369-7161
hhaines@augustinetribe.com

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Parkway — Cahuilla
Indio, CA, 92203
Phone: (760) 342 - 2593
Fax: (760) 347-7880
jstapp@cabazonindians-nsn.gov

Cahuilla Band of Indians
Daniel Salgado, Chairperson
52701 U.S. Highway 371 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 5549
Fax: (951) 763-2808
Chairman@cahuilla.net

Los Coyotes Band of Cahuilla and Cupeño Indians
Shane Chapparosa, Chairperson
P.O. Box 189 — Cahuilla
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Morongo Band of Mission Indians
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Morongo Band of Mission Indians
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Ramona Band of Cahuilla
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Fax: (951) 763-4325
admin@ramona-nsn.gov

Ramona Band of Cahuilla
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jgomez@ramona-nsn.gov

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 Sun Lakes Boulevard Realignment Project, Riverside County.

Native American Heritage Commission
Native American Contact List
Riverside County
9/24/2019

San Fernando Band of Mission Indians
Donna Yocum, Chairperson
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Newhall, CA, 91322 — Vanyume
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Fax: (503) 574-3308
ddyocum@comcast.net

San Manuel Band of Mission Indians
Lee Clauss, Director of Cultural Resources
26569 Community Center Drive — Serrano
Highland, CA, 92346
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Fax: (909) 864-3370
lclauss@sanmanuel-nsn.gov

Santa Rosa Band of Cahuilla Indians
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Anza, CA, 92539
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mercedes.estrada@santarosacahuilla-nsn.gov

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Serrano Nation of Mission Indians
Wayne Walker, Co-Chairperson
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Soboba Band of Luiseno Indians
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San Jacinto, CA, 92581 — Luiseno
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Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Soboba Band of Luiseno Indians
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jontiveros@soboba-nsn.gov

Torres-Martinez Desert Cahuilla Indians
Michael Mirelez, Cultural Resource Coordinator
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Thermal, CA, 92274
Phone: (760) 399 - 0022
Fax: (760) 397-8146
mmirelez@tmdci.org

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 Sun Lakes Boulevard Realignment Project, Riverside County.

Applied EARTHWORKS Inc.

133 N. San Gabriel Blvd., Suite 201
Pasadena, CA 91107-3414
O: (626) 578-0119 | F: (626) 204-5500

October 8, 2019

Ms. Stephanie Standerfer
Vice President
Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506
Transmitted via email to stephanie.standerfer@webbassociates.com

RE: **Paleontological Memorandum: Constraints Analysis for Sun Lakes Boulevard Realignment Project in the City of Banning, Riverside County, California**

Dear Ms. Standerfer,

At the request of Webb Associates, Applied EarthWorks, Inc. (Æ) completed a paleontological constraints analysis for the Sun Lakes Boulevard Realignment Project (Project), City of Banning (City), Riverside County (County), California. The City proposes to extend Sun Lakes Boulevard eastward from its current eastern termination point at South Highland Home Road along the existing right-of-way of Westward Avenue to the anticipated connection point at Sunset Avenue.

Written by Æ's paleontology staff who meet Society of Vertebrate Paleontology (SVP, 2010) qualifications standards, this memo follows guidelines set forth by the County of Riverside (2015a, 2015b). Æ's scope of work included desktop review of geologic maps, paleontological literature, museum records searches, and preparation of this technical memorandum (memo), and, as such, this memo satisfies the requirements of the California Environmental Quality Act (CEQA). The City is the lead agency for compliance with CEQA.

PROJECT DESCRIPTION AND BACKGROUND

The Project area is south of Interstate 10 along Westward Avenue in Sections 12 and 13 of Township 3 South, Range 1 West, and Sections 7, 8, 17, and 18 of Township 3 South, Range 1 East, as shown on the Beaumont, California 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle maps.

The proposed alignment is approximately 5,357 linear feet long by 111 feet wide, totaling approximately 13.65 acres. The Project includes portions of Assessor's Parcel Numbers 537-110-007, -008, and -009. The proposed maximum depth of ground disturbance for roadway construction is 3 feet below ground surface (bgs).

REGULATORY CONTEXT

Neither the California Department of Transportation (Caltrans) nor the Federal Highway Administration (FHWA) are involved in this Project (i.e., no federal lands, funds, or permits). However, this Project is subject to state laws and regulations in addition to local goals and policies. The City follows the County's regulations and does not have additional city-level codes that reference paleontological

resources. The following sections provide an overview of the laws and regulations relevant to the Project.

State

Paleontological resources are protected under CEQA, which requires detailed studies that analyze the environmental effects of a proposed project. If a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered. Specifically, in Section VII(f) of Appendix G of the CEQA Guidelines, the Environmental Checklist Form, the question is posed, "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" If paleontological resources are identified as being within the proposed project area, the sponsoring agency must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource.

Local

There are several policies covering paleontological resources within the County's *General Plan*, *Multipurpose Open Space (OS) Element* (County of Riverside, 2015a:OS-51):

- **OS 19.6:** Whenever existing information indicates that a site proposed for development has high paleontological sensitivity as shown on Figure OS-8, paleontological resource impact mitigation program (PRIMP) shall be filed with the Riverside County Geologist prior to site grading. The PRIMP shall specify the steps to be taken to mitigate impacts to paleontological resources.

- **OS 19.7:** Whenever existing information indicates that a site proposed for development has low paleontological sensitivity as shown on Figure OS-8, no direct mitigation is required unless a fossil is encountered during site development. Should a fossil be encountered, the Riverside County Geologist shall be notified and a paleontologist shall be retained by the project proponent. The paleontologist shall document the extent and potential significance of the paleontological resources on the site and establish appropriate mitigation measures for further site development.

- **OS 19.8:** Whenever existing information indicates that a site proposed for development has undetermined paleontological sensitivity as shown on Figure OS-8, a report shall be filed with the Riverside County Geologist documenting the extent and potential significance of the paleontological resources on site and identifying mitigation measures for the fossil and for impacts to significant paleontological resources prior to approval of that department.

- **OS 19.9:** Whenever paleontological resources are found, the County Geologist shall direct them to a facility within Riverside County for their curation, including the Western Science Center in the City of Hemet.

PALEONTOLOGICAL RESOURCE POTENTIAL

Most professional paleontologists in California adhere to the guidelines set forth by the Society of Vertebrate Paleontology (SVP, 2010) to determine the course of paleontological mitigation for a given project unless specific city, county, state, or federal guidelines are available. The County has developed its own guidelines that establish detailed protocols for the assessment of the paleontological sensitivity

of a project area and outline measures to follow in order to mitigate adverse impacts to known or unknown fossil resources during project development (County of Riverside, 2015b).

Following the County's established process, baseline information is used to assign the paleontological sensitivity of a geologic unit(s) (or members thereof) to one of four categories—Low, Undetermined, High A (Ha), and High B (Hb) potential (County of Riverside, 2015b). Geologic units are considered to be "sensitive" for paleontological resources and have a High paleontological resource potential if they are known to contain significant fossils anywhere in their extent, even if outside the Project area. High A (Ha) sensitivity is based on the occurrence of fossils that may be present at the ground surface of the Project area, while High B (Hb) sensitivity is based on the occurrence of fossils at or below 4 feet of depth, which may be impacted during construction activities (County of Riverside, 2015b). A coarse-grained paleontological sensitivity map of Riverside County indicates the sensitivity rankings across the ground surface based on the County's established process (County of Riverside, 2015a: Figure OS-8, OS-55).

Methodology

Æ's scope of work required only desktop research and no fieldwork. The desktop investigation began by Æ overlaying the Project area on the County's (2015a) paleontological sensitivity map, which shows the project area as "Undetermined" and surrounded by areas of "High A (Ha)" ranking. To refine the paleontological sensitivity presented in the countywide map, Æ reviewed published geologic maps and paleontological literature for geologic units exposed at the ground surface and those likely to occur in the subsurface of the Project area. Æ also retained the Western Science Center of Hemet (WSC) to conduct a records search for fossil localities recorded in their collections (Radford, 2019). To augment these results, Æ also conducted searches of the University of California Museum of Paleontology (UCMP) and the Raymond M. Alf Paleontological Museum (ALF) online databases.

RESOURCE CONTEXT

The Project area is in the San Gorgonio Pass, an area of semi-arid badlands and alluvial plains (Rewis et al., 2006) at the boundary between the Transverse Ranges and Peninsular Ranges Geomorphic Provinces (California Geological Survey, 2002). A geomorphic province is a region of unique topography and geology that is distinguished from other regions based on its landforms and tectonic history (American Geological Institute, 1976). The San Gorgonio Pass is bordered by the San Bernardino Mountains of the Transverse Ranges to the north, the San Jacinto Mountains of the Peninsular Ranges to the south, the San Timoteo Badlands to the southwest, and the Salton Trough to the east. The Transverse Ranges shape the local topography of roughly east-west trending mountain ranges and basins (Rewis et al., 2006). The San Bernardino Mountains are being displaced south along one trace of the San Andreas Fault in this geomorphic province, resulting in a high rate of uplift and a thickening of the crust (California Geological Survey, 2002).

Extensive previous work was conducted during surveys of the geology of the San Gorgonio Pass, starting with paleontological exploration of the Cenozoic valley fill units by Frick (1921) in the late 1910s to early 1920s, who concentrated on the Timoteo Badlands southwest of the Project area. Vaughan (1922) was the first to map the Banning Fault, an important trace of the San Andreas just south of the Project area. The most recent extensive geologic mapping was conducted by Dibblee (1982) based

on earlier work, with Cenozoic stratigraphy, geochronology, and paleontology most recently updated by Albright (1999).

The entire valley base forming the San Gorgonio Pass is composed of Late Cenozoic sedimentary rocks unconformably overlying crystalline basement rocks (Rewis et al., 2006). The crystalline basement rocks are composed primarily of Mesozoic granites and some older metasedimentary rocks, and are presumed to completely underlie the basin. However, as the Banning Fault runs roughly east-west, many units are only exposed on a single side of the fault zone (Rewis et al., 2006). Previous studies found some parts of the San Gorgonio Pass to have upwards of 4,500 feet of Cenozoic sedimentary fill above the older basement rocks (Langenheim et al., 2005); however, only younger sedimentary sequences play a role in the geology within the City of Banning.

The Cenozoic geologic units can be separated into Late Miocene-Pliocene, Pleistocene, and Holocene deposits (Rewis et al., 2006). These geologic units are all terrestrial, and record local history of uplift along the fault zone, which resulted in erosion of the basins. Ongoing uplift and rotation along the Banning Fault have deformed the Miocene-Pleistocene sedimentary sequences into a broad anticline, plunging gently toward the northwest (Morton, 1999). The structural geology in the area also places the older sedimentary rocks of the Mt. Eden Formation and the San Timoteo beds (Frick, 1921) at a shallow subsurface depth under much of Banning, and exposed at the surface just north of the City on the Banning Shelf (Rewis et al., 2006). Both the Mt. Eden Formation and San Timoteo Formation are fossiliferous (Reynolds and Reeder, 1986; Albright, 1999, 2000).

The younger sedimentary rocks (Qsu, Qsl) are represented by the upper parts of the San Timoteo beds. Unit Qsl is only exposed farther north on the Banning Shelf; however, unit Qsu is locally exposed throughout much of Banning, with shallow overlying alluvial deposits of Holocene age (Rewis et al., 2006). Many of the younger deposits from the Middle Pleistocene and later are exposed within a one-mile-long radius of the Project area, and are capped only by the thinnest of the Holocene deposits (Rewis et al., 2006).

Holocene-age deposits, particularly those less than 5,000 years old, are typically too young for the fossilization process to occur (SVP, 2010). Therefore, the Holocene-age alluvial deposits across the ground surface of the Project area are unlikely to preserve fossils. These deposits are underlain by older Holocene- and Pleistocene-age alluvial deposits. The older deposits have yielded significant fossils throughout Southern California from the coastal areas to the inland valleys (Reynolds and Reynolds, 1991; Springer et al., 2009).

RECORDS SEARCH RESULTS

Radford (2019) reports no fossil localities from the WSC collections within the Project area or within a 1-mile-wide buffer zone. However numerous localities are within 10 miles of the Project area. Such localities include subsurface geologic units likely in the Project area at unknown depths. According to Radford, the subsurface lithology of the Project area likely consists of Middle to Late Pleistocene alluvial deposits with high fossil preservation value. For instance, the El Casco Project, which is within 10 miles of the Project area and mapped with the same surficial geology, produced over 16,000 fossils from numerous localities, demonstrating the high likelihood of fossil preservation in the units underlying the Project area. As such, Radford (2019) notes development for the Project even a few feet in depth

may encounter Pleistocene deposits with scientifically significant fossils. The vertebrate taxa represented by fossils from these localities include:

- The genus *Equus*, widespread in the Pleistocene and extinct by 10,000 years ago.
- The scimitar-toothed cat *Homotherium* sp., possibly extinct by the Middle Pleistocene in the Western Hemisphere.
- One of the largest Pleistocene giant ground sloths, *Paramylodon* sp., which became extinct about 11,000 years ago.

Æ's search of the UCMP online paleontological database search resulted in over 2,000 fossil specimen listings in Riverside County. However, there are no specimens or localities listed within 10 miles of the Project area (UCMP, 2019). Likewise, the ALF online database also does not include fossil specimen listings within 10 miles of the Project area, although several hundred are within 25 miles (ALF, 2019).

FINDINGS AND RECOMMENDATIONS

Æ used the County's (2015b) sensitivity criteria to determine the paleontological potential of the Project area. When placed over the County's (2015a) paleontological sensitivity map, the entire surface area of the Project area is mapped as High A (Ha). Æ's desktop efforts and the museum record searches support this ranking, as the surficial Holocene-age alluvial deposits overlie very shallow Pleistocene deposits with recorded vertebrate fossils.

Excavations to a maximum depth of 3 feet bgs for the Project, especially at the dry gully crossings, have a high likelihood of encountering these resources in previously undisturbed sediments (i.e., native sediments) of Middle to Late Pleistocene ages. In accordance with the County's (2015a) guidelines for an area with "Ha" ranking, further paleontological resource management, including construction monitoring and Worker Environmental Awareness Program (WEAP) training, will be required prior to issuance of the grading permits.

It has been a pleasure assisting you with this Project. If you have any questions, please do not hesitate to contact me at (541) 852-0150.

Sincerely,

Win McLaughlin
Senior Paleontologist
Applied EarthWorks, Inc.

Chris Shi
Paleontology Supervisor
Applied EarthWorks, Inc.

Edited and Approved By:

Amy Ollendorf, Ph.D., M.S., RPA 12588
Paleontology Program Manager
Applied EarthWorks, Inc.

Encl. References

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Project No. T2881-22-01
October 14, 2019

Cynthia Gibbs
Albert A. Webb Associates
3788 McCray Street
Riverside, California 92506

Subject: PRELIMINARY GEOTECHNICAL PAVEMENT INVESTIGATION
SUN LAKES BOULEVARD REALIGNMENT
SOUTH HIGHLAND HOME ROAD TO SUNSET AVENUE
BANNING, CALIFORNIA

Ms. Gibbs,

In accordance with the *Subconsultant Agreement* dated August 29, 2019 between Albert A. Webb Associates and Geocon West, Inc. (Geocon), we have prepared this report of our geotechnical investigation for the Sun Lakes Boulevard realignment circulation element update project, located in the City of Banning, California. The approximate limits of the project are depicted on the attached *Vicinity Map* (Figure 1). This report presents a summary of the methods used to explore the subsurface geologic conditions, results of our laboratory testing, and geotechnical recommendations for design and construction of the proposed improvements. Based on the results of this study, it is our opinion that the site is suitable for the proposed roadway improvements, provided the recommendations of this report are followed.

This report is preliminary in nature, and as such, Geocon should be afforded the opportunity to review the final project design and plans, and to revise this report and provide additional geotechnical recommendations as needed.

PROJECT UNDERSTANDING

We understand that Sun Lakes Boulevard will be realigned from South Highland Home Road to Sunset Avenue, along a section of road that currently exists as Westward Avenue, from Sun Lakes Boulevard's current planned S-curve alignment that extends from South Highland Home Road to West Lincoln Street. The City of Banning will update their General Plan Circulation Element to reflect the proposed alignment change. The site currently exists as a dirt roadway in most areas with a few utility substations along the south side of the road. Multiple utilities are located within and adjacent to the roadway. A locked gate was observed at the South Highland Home Road intersection with Sunset Avenue. Smith Creek crosses the western portion of the road near a utility substation and Montgomery Creek crosses the eastern portion of the road. Corrugated steel pipe culverts exist at the creek crossings and are buried in cemented riprap consisting of boulders and demolished construction debris. The creek crossings are paved over the culverts and riprap. Two white pipes were observed daylighting through the western and eastern hillsides on the south side of the road at the Smith Creek crossing.

Based on Google Earth Pro (2019), elevations range across the roadway, with the highest elevation being approximately 2,500 feet above mean sea level (MSL) on the western portion of the site, and the lowest elevation being approximately 2,415 feet above MSL within the Montgomery Creek crossing. Elevations within the Smith Creek channel are approximately 2,455 feet above MSL on the north side of the culvert, and approximately 2,438 feet above MSL on the south side of the culvert. Elevations within the Montgomery Creek channel are approximately 2,415 feet above MSL on the north side of the culvert, and approximately 2,408 feet above MSL on the south side of the culvert.

Project plans were not available for our review as of the date of this report; however, we expect the proposed improvements will consist of a new conventional asphalt concrete paved roadway, and new corrugated metal pipe or box culvert systems at the creek channel crossings. Additional site improvements are expected to include concrete flatwork, and storm water catch basins and piping. We expect site earthwork to consist of cuts and fills of up to 10 feet to meet finish grade elevations.

The recommendations presented herein are based on analysis of the data obtained during this investigation and our experience with similar soil and geologic conditions. If project details vary significantly from those described herein, Geocon should be contacted to determine the necessity for review and possible revision of this report.

SCOPE OF SERVICES

The general purpose of this investigation was to drill eight geotechnical borings to observe and document the subsurface geologic conditions, collect soil samples for laboratory testing, and provide geotechnical recommendations for construction of the proposed improvements. Our scope of services included the following:

- Marking the proposed boring locations and notifying Underground Service Alert (USA) to locate and mark utilities within the proposed investigation area.
- Acquiring an encroachment permit from the City of Banning.
- Drilling eight geotechnical borings to observe the subsurface geologic conditions, collect relatively undisturbed in-situ and disturbed bulk samples for laboratory testing.
- Performing laboratory testing of select soils samples which included maximum dry density and optimum moisture content, soil resistance value (R-value), grain size distribution, in-situ direct shear, and in-situ density and moisture content.
- Preparing this geotechnical pavement report presenting our findings, conclusions and recommendations as it pertains to the proposed improvements.

FIELD EXPLORATION AND LABORATORY TESTING

Our subsurface investigation was conducted on September 17, 2019 by drilling eight 8-inch diameter geotechnical borings utilizing a truck mounted CME-75 drilling machine. The borings were drilled to depths of 6½ and 26½ feet below the existing ground surface in areas of the planned improvements to observe the subsurface geologic conditions, and to collect relatively undisturbed in-situ and disturbed bulk samples for laboratory testing. The approximate locations of the exploratory borings are depicted on the *Geologic Map* (Figure 2).

Laboratory tests were performed on selected soil samples obtained during the investigation in accordance with current, generally accepted test methods of ASTM International (ASTM). We analyzed selected soil samples for maximum dry density and optimum moisture content, soil resistance value (R-value), grain size distribution, in-situ direct shear, and in-situ density and moisture content. The results of the laboratory tests are presented on Figures B-1 through B-8 in Appendix B.

GEOLOGIC SETTING

The project site is located in the San Gorgonio Pass at the northern margin of the Peninsular Ranges Geomorphic Province. The Peninsular Ranges are bounded on the north by the Transverse Ranges (San Gabriel and San Bernardino Mountains) and on the east by the San Andreas fault. The Peninsular Ranges Province extends southward into Mexico and westward past the Channel Islands. Geologic units within the Peninsular Ranges consist of granitic and metamorphic bedrock highlands and deep and broad alluvial valleys.

Locally, the site lies within the valley between the San Jacinto and San Bernardino Mountains, west of the San Gorgonio River. Active drainages such as Smith Creek and Montgomery Creek flow southeast from the north, through the site, before merging along the base of the San Jacinto Mountains, and continuing east to join the San Gorgonio River. This broad valley is filled with older alluvial fan materials consisting of sand, gravel and granitic detritus shed from the San Jacinto Mountains dissected by active stream channels with sand and gravel deposits.

GEOLOGIC MATERIALS

Geologic units encountered during our investigation include undocumented fill (afu), Holocene-age alluvium (Qa), and Pleistocene-age Alluvial fan of the San Gorgonio Pass (Qf) deposits. The descriptions of the soil and geologic conditions are shown on the boring logs located in *Appendix A* and described below in order of increasing age. Geologic nomenclature of this report follows that of Dibblee (2003).

Undocumented Fill (afu)

Undocumented fill was encountered within borings B-7 and B-8 below the surface and asphalt concrete pavement to depths of approximately 5 feet. This unit generally consists of locally derived silty sand and poorly-graded sand with silt that is loose to medium dense, dry to moist, and yellowish brown and olive brown. Rusted metal debris were encountered within B-8 at approximately 4½ of depth.

Alluvium (Qa)

Alluvium was encountered at the surface and below the undocumented fill, near and within the active channel areas where borings B-2 and B-7 were drilled. The alluvium was encountered to depths of approximately 15 feet below the ground surface. The soils consist of silty sand, poorly-graded sand, and poorly-graded sand with silt that is loose to dense, damp to moist, and brown with hues of red, yellow, and olive.

Alluvial Fan of the San Gorgonio Pass (Qf)

Alluvial fan deposits were encountered at the ground surface in the areas of higher elevation outside, and below the alluvium and undocumented fill to the maximum depths explored within the borings. This unit consists of clayey sand, silty sand, poorly-graded sand, poorly-graded sand with silt, well-graded sand, and to a lesser extent sandy clay that is loose to very dense or stiff, dry to wet, and yellowish to reddish brown.

GROUNDWATER

Groundwater was not encountered during this investigation. Historic well data acquired from the California Department of Water Resources Water Data Library indicates the shallowest groundwater levels were measured at depths ranging between 243 and 271 feet below the ground surface within observation wells in the immediate vicinity of the site. During the wet weather season, localized perched water conditions may develop above less permeable units that may require special consideration during grading operations. Groundwater elevations and seepage are dependent on seasonal precipitation, irrigation, and land use, among other factors, and vary as a result.

SCOUR EVALUATION

Foundations should be properly protected against the potential scour or extended below the zone affected by scour.

We obtained samples at various depths and performed grain size distribution analysis on the samples to provide information for a future scour analysis. The particle size at which 30, 50, and 90 percent is passing ($D_{30,}$ $D_{50,}$ D_{90}) is presented in Table 1 below. Geocon should be contacted for additional parameters if needed.

TABLE 1
SOIL GRAIN SIZE DISTRIBUTION D_{50} TEST RESULTS

Sample ID (Boring Number & Sample Depth)	D_{90} (mm)	D_{50} (mm)	D_{30} (mm)
B-2 @ 7.5’	1.2	0.14	
B-2 @ 15’	0.95	0.76	0.34
B-7 @ 10’	1.3	0.31	0.18
B-7 @ 20’	2.1	0.17	0.092

PRELIMINARY SEISMIC EVALUATION

Ground Motion Evaluation

Based on Caltrans’ web-based *ARS Online* application (V2.3.09, accessed October 8, 2019) and associated reports, the controlling faults for potential earthquake ground motions at the site are summarized in Table 2.

TABLE 2
FAULT INFORMATION

Fault Name	San Andreas (San Bernardino S)	San Gorgonio Pass	San Jacinto (San Jacinto Valley)
Fault ID#	325	354	356
M_{Max}	7.9	6.7	7.7
Fault Type	Strike-Slip	Reverse	Strike-Slip
Fault Dip	90°	60°	90°
Dip Direction	Vertical	North	Vertical
Top of Rupture	0 km	0 km	0 km
Bottom of Rupture	13.00 km	18.50 km	16.00 km
Distance to Site (R_{RUP})	10.015 km	1.456 km	11.231 km
Depth to rock with Shear Wave Velocity of 1 km/sec ($Z_{1.0}$)	n/a*	n/a*	n/a*
Depth to rock with Shear Wave Velocity of 2.5 km/sec ($Z_{2.5}$)	n/a*	n/a*	n/a*

***Note**: Site is not located within sedimentary basin as mapped/defined by Caltrans’ *Seismic Design Criteria (Appendix B);* therefore, Basin Factors are not applicable.

A design response spectrum for the proposed culvert structures at the site was developed in accordance with Caltrans’ 2012 *Methodology for Developing Design Response Spectrum for Use in Seismic Design Recommendations.* Site-specific information used in the procedure included the latitude of 33.9179 N and the longitude of -116.9197 W. The site is not located within a deep sedimentary basin per Caltrans *ARS Online.*

Based on the sampling penetration resistance measured in boring B-2 and B-7 and using published correlations, a shear wave velocity in the top 30 meters (100 feet), V_{s30} of approximately 248 meters per second (m/sec) is estimated for the subsurface profile at both creek crossings.

Both the deterministic and probabilistic response spectra of the site were estimated using Caltrans' *Caltrans ARS Online* web tool. The design response spectrum is the upper envelope of the spectral values of deterministic response spectrum and the probabilistic response spectrum. For this site, the design response spectrum is controlled by the ARS Online probabilistic response spectrum as shown on the *Design Response Spectrum* (Figure 3). The peak ground acceleration generated by the design spectrum is 0.689g (where "g" represents the acceleration due to gravity).

Fault Rupture

The roadway does not lie within or adjacent to a State of California Earthquake Fault Zone or a Riverside County Fault Hazard Zone. In addition, the structures are not located on any known "active" earthquake fault trace. Therefore, the potential for ground rupture due to onsite active faulting is considered to be low.

Embankment Slope Stability

Assuming that new fill slopes and embankments are designed and properly constructed with appropriate, typical slope inclinations 2:1 (horizontal:vertical) or flatter, and with appropriate slope protection installed, global slope instability should not be a hazard for new embankments on the project.

CONCLUSIONS AND RECOMMENDATIONS

We did not encounter soil or geologic conditions that would preclude the construction of the proposed improvements, provided the recommendations presented herein are followed and implemented during construction.

New Pavements – Conventional Pavement

The final pavement design should be based on R-value testing of soils at the subgrade following grading at the site. Paved areas at the site should be designed in accordance with the City of Banning *Street Standards* when final Traffic Indices and R-Value test results of subgrade soil are completed. Roadway classifications and traffic indices are based on the County of Riverside *Ordinance 461*. The civil engineer should evaluate the final traffic indices for the pavements and determine their applicability to the site. Based on laboratory testing, we used an R-value of 25 for the preliminary pavement design recommendations. Preliminary flexible pavement sections are presented in Table 3 based on the County of Riverside *Ordinance 461* and the Caltrans *Highway Design Manual*.

TABLE 3
PRELIMINARY FLEXIBLE PAVEMENT SECTIONS

Road Classification/Use	Traffic Index	Subgrade R-Value	Asphalt Concrete (Inches)	Aggregate Base Materials (Inches)
Local Street	5.5	25	4	7
Enhanced Local Street	6.5		4	9
Collector	7.0		5	10
Industrial Collector	8.0		6	11
Secondary Highway	8.5		6	12

The upper 12 inches of the subgrade soil should be compacted to a dry density of at least 95 percent of the laboratory maximum dry density at 0 to 2 percent above optimum moisture content.

The aggregate base materials and asphalt concrete materials should conform to Section 200-2.2 and Section 203-6, respectively, of the Greenbook. Base materials should be compacted to a dry density of at least 95 percent of the laboratory maximum dry density near to slightly above optimum moisture content. Asphalt concrete should be compacted to a density of 95 percent of the laboratory Hveem density in accordance with ASTM D 2726.

A rigid Portland cement concrete (PCC) pavement section should be placed in driveway aprons and cross gutters. We calculated the rigid pavement section in general conformance with the procedure recommended by the American Concrete Institute report ACI 330R *Guide for Design and Construction of Concrete Parking Lots* using the parameters presented in Table 4.

TABLE 4
RIGID PAVEMENT DESIGN PARAMETERS

Design Parameter	Design Value
Modulus of subgrade reaction, k	120 pci
Modulus of rupture for concrete, M_R	500 psi
Traffic Category, TC	B, C, and D
Average daily truck traffic, ADTT	25, 300, and 700

Based on the criteria presented herein, the PCC pavement sections should have a minimum thickness as presented in Table 5.

TABLE 5
RIGID PAVEMENT RECOMMENDATIONS

Location	Portland Cement Concrete (inches)
Light Truck Traffic (TC = C)	6.0
Entrance / Driveway Aprons; Moderate Truck Traffic (TC = C)	7.5
Entrance / Driveway Aprons; Heavy Truck Traffic (TC = D)	8.0

The PCC pavement should be placed over subgrade soil that is compacted to a dry density of at least 95 percent of the laboratory maximum dry density at 0 to 2 percent above optimum moisture. This pavement section is based on a minimum concrete compressive strength of approximately 3,000 psi (pounds per square inch). Base material will not be required beneath concrete improvements.

A thickened edge or integral curb should be constructed on the outside of concrete slabs subjected to wheel loads. The thickened edge should be 1.2 times the slab thickness or a minimum thickness of 2 inches, whichever results in a thicker edge, and taper back to the recommended slab thickness 4 feet behind the face of the slab (e.g., a 9-inch-thick slab would have an 11-inch-thick edge). Reinforcing steel will not be necessary within the concrete for geotechnical purposes except for dowels at construction joints as discussed herein.

In order to control the location and spread of concrete shrinkage cracks, crack-control joints (weakened plane joints) should be included in the design of the concrete pavement slab in accordance with the referenced ACI report.

Performance of the pavements is highly dependent on providing positive surface drainage away from the edge of the pavement. Ponding of water on or adjacent to the pavement surfaces will likely result in pavement distress and subgrade failure. Drainage from landscaped areas should be directed to controlled drainage structures. Landscape areas adjacent to the edge of asphalt pavements are not recommended due to the potential for surface or irrigation water to infiltrate the underlying permeable aggregate base and cause distress. Where such a condition cannot be avoided, consideration should be given to incorporating measures that will significantly reduce the potential for subsurface water migration into the aggregate base. If planter islands are planned, the perimeter curb should extend at least 6 inches below the level of the base materials.

Earthwork

Earthwork for the proposed improvements should be performed in accordance with the grading ordinances of the City of Banning, and the recommended grading specifications attached.

Prior to commencing earthwork, a preconstruction conference should be held at the site with the City inspector, City engineer, earthwork contractor, civil engineer, and geotechnical engineer in attendance. Special soil handling and/or the improvement plans can be discussed at that time.

Site preparation should begin with the removal of deleterious material, debris and vegetation. The depth of removal should be such that material exposed in cut areas or soil to be used as fill is relatively free of organic matter. Material generated during stripping and/or site demolition should be exported from the site. A significant quantity of deleterious material and debris will be encountered where the existing culverts are located within the creek channel areas, which are associated with the construction of the culverts.

For grading of new roadways in areas outside of the creek channels, the previously placed undocumented fill (where encountered) and upper portion of alluvial fan material should be removed to expose competent alluvial fan material with a minimum in-situ relative compaction of 85 percent as determined by ASTM D1557. Removals within creek channels is addressed in the section titled "Preliminary Foundation Recommendations for Culverts". Areas of loose, dry, or compressible soils, if encountered, will require deeper excavation and processing prior to fill placement. Removals should extend at least 3 feet below subgrade and into competent alluvial soils. The engineering geologist should evaluate the actual depth of removal during grading operations. The bottom of the over excavations should be proof-rolled with heavy equipment to observe yielding of the excavation bottom. The firm, unyielding bottom of the over excavation should then scarified to a depth of at least 1 foot, moisture conditioned at 0 to 2 percent above optimum moisture content, and compacted to 90 percent of the maximum dry density as determined by ASTM 1557.

The site should be brought to finish grade elevations with fill compacted in layers. Layers of fill should be no thicker than will allow for adequate bonding and compaction. Fill, including backfill and scarified ground surfaces, should be compacted to a dry density of at least 90 percent of the laboratory maximum dry density, at 0 to 2 percent above optimum moisture content, as determined by ASTM D1557. The upper 12 inches of subgrade in areas of vehicular traffic should be compacted to a dry density of at least 95 percent of the laboratory maximum dry density, at 0 to 2 percent above optimum moisture content, as determined by ASTM D1557. Fill materials placed below the recommended moisture content may require additional moisture conditioning prior to placing additional fill.

If perched groundwater, wet, or saturated materials are encountered, extensive drying and mixing with dryer soil will be required. The excavated materials should then be moisture conditioned as necessary to the recommended optimum moisture content prior to placement as compacted fill.

Where relatively loose, soft, or wet soils are encountered in the site excavations, subgrade stabilization may be required prior to placing fill or installing utilities. Where required, subgrade stabilization can be achieved by over excavating the loose or soft materials and replacing with compacted fill, placing 3-inch diameter rock in the soft bottom and working it into soil until it is stabilized, or placing gravel wrapped in filter fabric at the bottom of the excavation. Recommendations for stabilizing excavation bottoms should be based on an evaluation in the field by Geocon at the time of construction.

If needed, import fill should consist of granular materials with "low" expansion potential (EI of 50 or less), should not be corrosive, generally free of deleterious material and rock fragments larger than 6 inches, and should be compacted as recommended herein. Geocon should be notified of the import soil source and should perform laboratory testing of import soil prior to its arrival at the site to evaluate its suitability as fill material.

Utility Trench Backfill

Utility trenches should be properly backfilled in accordance with the requirements of the City of Banning and the latest edition of the *Standard Specifications for Public Works Construction* (Greenbook). The pipes should be bedded with well-graded crushed rock or clean sand (Sand Equivalent greater than 30) to a depth of at least one foot over the pipe. The use of well-graded crushed rock is only acceptable if used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil. Backfill of utility trenches should not contain rocks greater than 3 inches in diameter. The use of 2-sack slurry and controlled low strength material (CLSM) are also acceptable as backfill. However, consideration should be given to the possibility of differential settlement where the slurry ends and earthen backfill begins. These transitions should be minimized, and additional stabilization should be considered at these transitions.

Trench excavation bottoms must be observed and approved in writing by the Geotechnical Engineer, prior to placing bedding materials, fill, gravel, or concrete.

Utility trench backfill should be placed in layers no thicker than will allow for adequate bonding and compaction. Utility backfill should be compacted to a dry density of at least 90 percent of the laboratory maximum dry density and moisture conditioned at 0 to 2 percent above optimum moisture content as determined by ASTM D 1557. Backfill at the finish subgrade elevation of new pavements should be compacted to at least 95 percent of the maximum dry density. Backfill materials placed below the recommended moisture content may require additional moisture conditioning prior to placing additional fill.

PRELIMINARY FOUNDATION RECOMMENDATIONS FOR CULVERTS

The following preliminary foundation recommendations for culverts are based on the subsurface conditions as evaluated in this report, and our experience with similar projects/structures in similar geotechnical and geological conditions.

The proposed structures are expected to consist of either box or corrugated metal pipe culverts. Some remedial grading in the form of removal and re-compaction below the culvert bottoms should be anticipated to achieve uniform bearing conditions. Previously placed undocumented fill (where encountered) and upper portion of alluvium material should be removed to expose competent alluvium with a minimum in-situ relative compaction of 85 percent as determined by ASTM D1557. We anticipate that such remedial grading below the culverts would be on the order of at least 5 feet, and extend laterally 5 feet beyond the foundation footprint, or for a lateral distance equal to the depth of removal, whichever is greater. The engineering geologist will evaluate the limits of remedial grading in the field during grading operations. Specific foundation area preparation recommendations should be provided in the design-level geotechnical investigation for the project.

Within the creek channel areas, foundations for small structures such as headwalls, landscape or retaining walls up to 10 feet in height may be supported on conventional foundations following remedial grading and bearing on a minimum of 4 feet of newly placed engineered fill that extend laterally 4 feet beyond the foundation footprint, or for a lateral distance equal to the depth of removal, whichever is greater. Outside of creek channel areas, the foundations should bear on a minimum of 2 feet of newly placed engineered fill that extend laterally 2 feet beyond the foundation footprint, or for a lateral distance equal to the depth of removal, whichever is greater. Where excavation and compaction cannot be performed or is undesirable, such as adjacent to utilities or property lines, foundations may derive support in the undisturbed alluvium or alluvial fan material found at or below a depth of 5 feet and 3 feet, respectively, and should be deepened as necessary to maintain a minimum 12-inch embedment into undisturbed alluvium or alluvial fan material. Foundation excavations must be observed and approved by a Geocon representative.

Miscellaneous foundations deriving support in newly placed engineered fill may be designed for a bearing value of 2,500 pounds per square foot (psf), and should be a minimum of 18 inches in width, a minimum of 12 inches in depth below the lowest adjacent grade, and a minimum of 12 inches into the recommended bearing material. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces. Figure 4 presents a wall/column footing dimension detail depicting lowest adjacent grade. Steel reinforcement for the spread footings should be designed by the project structural engineer.

Foundation excavations should be observed by the engineering geologist prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated.

Special subgrade presaturation is not deemed necessary prior to placing concrete; however, the exposed foundation subgrade soil should be moisturized to maintain a moist condition prior to placement of concrete.

Geocon should be consulted to provide additional design parameters as required by the structural engineer.

Concrete Flatwork

Exterior concrete flatwork not subject to vehicular traffic should be constructed in accordance with the recommendations herein assuming the subgrade materials possess an Expansion Index of 50 or less. Subgrade soils should be compacted to 90 percent relative compaction at a moisture content 0 to 2 percent above optimum as determined by ASTM D1557. Slab panels should be a minimum of 4 inches thick and when in excess of 8 feet square should be reinforced with No. 3 reinforcing bars spaced 24 inches on in both directions to reduce the potential for cracking. In addition, concrete flatwork should be provided with crack control joints to reduce and/or control shrinkage cracking. Crack control spacing should be determined by the project structural engineer based upon the slab thickness and intended usage. Criteria of the American Concrete Institute (ACI) should be taken into consideration when establishing crack control spacing. Subgrade soil for exterior slabs not subjected to vehicle loads should be compacted in accordance with criteria presented in the earthwork section prior to concrete placement. Subgrade soil should be properly compacted and the moisture content of subgrade soil should be verified prior to placing concrete. Base materials will not be required below concrete improvements.

Even with the incorporation of the recommendations of this report, the exterior concrete flatwork has a potential to experience some uplift due to expansive soil beneath grade or differential settlement. The steel reinforcement should overlap continuously in flatwork to reduce the potential for vertical offsets within flatwork.

The recommendations presented herein are intended to reduce the potential for cracking of exterior slabs as a result of differential movement. However, even with the incorporation of the recommendations presented herein, concrete slabs will still crack. The occurrence of concrete shrinkage cracks is independent of the soil supporting characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, the use of crack control joints and proper concrete placement and curing. Crack control joints should be spaced at intervals no greater than 12 feet. Literature provided by the Portland Concrete Association (PCA) and American Concrete Institute (ACI) present recommendations for proper concrete mix, construction, and curing practices, and should be incorporated into project construction.

Conventional Retaining Walls

The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 10 feet. In the event that walls higher than 10 feet are planned, Geocon should be contacted for additional recommendations.

Retaining walls not restrained at the top and having a level backfill surface should be designed for an active soil pressure equivalent to the pressure exerted by a fluid density of 30 pounds per cubic foot (pcf). Where the backfill will be inclined at no steeper than 2:1 (horizontal to vertical), an active soil pressure of 50 pcf is recommended. These soil pressures assume that the backfill materials within an area bounded by the wall and a 1:1 plane extending upward from the base of the wall possess an EI of 50 or less. For walls where backfill materials do not conform to the criteria herein, Geocon should be consulted for additional recommendations.

Unrestrained walls are those that are allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, the walls should be designed for a soil pressure equivalent to the pressure exerted by a fluid density of 50 pcf.

Unrestrained walls will move laterally when backfilled and loading is applied. The amount of lateral deflection is dependent on the wall height, the type of soil used for backfill, and loads acting on the wall. The retaining walls and improvements above the retaining walls should be designed to incorporate an appropriate amount of lateral deflection as determined by the structural engineer.

Retaining walls should be provided with a drainage system adequate to prevent the buildup of hydrostatic forces and waterproofed as required by the project architect. The soil immediately adjacent to the backfilled retaining wall should be composed of free draining material completely wrapped in Mirafi 140N (or equivalent) filter fabric for a lateral distance of 1 foot for the bottom two-thirds of the

height of the retaining wall. The upper one-third should be backfilled with less permeable compacted fill to reduce water infiltration. Alternatively, a drainage panel, such as a Miradrain 6000 or equivalent, can be placed along the back of the wall. Typical retaining wall drainage details are shown on Figure 5. The use of drainage openings through the base of the wall (weep holes) is not recommended where the seepage could be a nuisance or otherwise adversely affect the property adjacent to the base of the wall. The recommendations herein assume a properly compacted backfill (EI of 50 or less) with no hydrostatic forces or imposed surcharge load. If conditions different than those described are expected or if specific drainage details are desired, Geocon should be contacted for additional recommendations.

Lateral Design

Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. A passive pressure exerted by an equivalent fluid weight of 300 pcf with a maximum earth pressure of 3,000 psf should be used for the design of footings or shear keys poured neat against newly compacted fill. The allowable passive pressure assumes a horizontal surface extending at least 5 feet, or three times the surface generating the passive pressure, whichever is greater. The upper 12 inches of material in areas not protected by floor slabs or pavement should not be included in design for passive resistance.

If friction is to be used to resist lateral loads, an allowable coefficient of friction between newly compacted fill soil and concrete of 0.35 should be used for design. When combining passive pressure and friction for lateral resistance, the passive component should be reduced by one-third.

Temporary Excavations

The recommendations included herein are provided for stable excavations. It is the responsibility of the contractor to provide a safe excavation during the construction of the proposed project.

Temporary excavations should be made in conformance with OSHA requirements and as directed by the assigned competent person in the field (contractor). In general, special shoring requirements may not be necessary if temporary excavations will be less than 4 feet in height. Temporary excavations greater than 4 feet in height, however, should be sloped back at an appropriate inclination based on the material type, and as determined by the contractor during construction. These excavations should not be allowed to become saturated or to dry out. Surcharge loads should not be permitted to a distance equal to the height of the excavation from the top of the excavation. The top of the excavation should be a minimum of 15 feet from the edge of existing improvements. Excavations steeper than those recommended or closer than 15 feet from an existing surface improvement should be shored in accordance with applicable OSHA codes and regulations.

Where there is insufficient space for sloped excavations, shoring or trench shields should be used to support excavations. Shoring may also be necessary where sloped excavation could remove vertical or lateral support of existing improvements, including existing utilities and adjacent structures.

Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. The contractor's competent person should inspect the soils exposed in the cut slopes during excavation in accordance with OSHA regulations so that modifications of the slopes can be made if variations in the soil conditions occur.

Site Drainage and Moisture Protection

Proper site drainage is critical to reduce the potential for differential soil movement, erosion and subsurface seepage. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2016 CBC 1804.4 and the Caltrans *Highway Design Manual*. In addition, surface drainage should be directed away from the top of slopes into swales or other controlled drainage devices.

Underground utilities should be leak free. Utility and irrigation lines should be checked periodically for leaks, and detected leaks should be repaired promptly. Detrimental soil movement could occur if water is allowed to infiltrate the soil for prolonged periods of time.

Landscaping planters adjacent to paved areas have the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Where landscaping is planned adjacent to the pavement, we recommend construction of a cutoff wall along the edge of the pavement that extends at least 6 inches below the bottom of the base material.

If not properly constructed, there is a potential for distress to improvements and properties located hydrologically down gradient or adjacent to infiltration areas. Factors such as the amount of water to be detained, its residence time, and soil permeability have an important effect on seepage transmission and the potential adverse impacts that may occur if the storm water management features are not properly designed and constructed. We have not performed a hydrogeology study at the site. Down-gradient and adjacent structures may be subjected to seeps, movement of foundations and slabs, or other impacts as a result of water infiltration.

ADDITIONAL FIELD WORK AND LABORATORY TESTING

Once the culvert types and details are known, design-level geotechnical investigation should be performed to evaluate subsurface conditions at each support location and develop site-specific geotechnical recommendations for design and construction of the structures. The geotechnical investigations should include the following general scope of services:

- Review available preliminary design plans to evaluate the need for additional supplemental geotechnical borings.
- Perform additional geotechnical borings (if needed) to depths sufficient to evaluate subsurface conditions to at least 10 feet below proposed culvert foundation depths.
- Obtain representative soil samples from the borings for laboratory testing.
- Log the borings in accordance with the Unified Soil Classification System (USCS).
- Perform geotechnical laboratory testing (if needed) to evaluate the pertinent index and engineering properties.
- Analyze field and laboratory data, and prepare a supplemental geotechnical report specifically addressing the proposed culverts.

Plan Review

Geocon should be afforded the opportunity review the improvement plans for the project prior to final submittal, to verify that the plans have been prepared in substantial conformance with the recommendations of this report. Additional analyses may be required after review of the project plans.

Should you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON WEST, INC.

Andrew Shoashekan
EIT 151871

Lisa A. Battiato
CEG 2316

Joseph J. Vettel
GE 2401

ATS:LAB:JJV:hd

Attachments: LIMITATIONS AND UNIFORMITY OF CONDITIONS
LIST OF REFERENCES

MAPS AND ILLUSTRATIONS
- Figure 1, Vicinity Map
- Figure 2, Geologic Map
- Figure 3, Design Response Spectrum
- Figure 4, Wall / Column Footing Detail
- Figure 5, Typical Retaining Wall Drain Detail

APPENDIX A
- Figures A-1 through A-8, Logs of Borings

APPENDIX B
- Figures B-1 & B-2, Modified Compaction Test of Soils
- Figures B-3 & B-4, Direct Shear Test
- Figures B-5 through B-8, Grain Size Distribution

APPENDIX C
- Recommended Grading Specifications

Distribution: Addressee (Email)

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.

2. This report is issued with the understanding that it is the responsibility of the owner, or of their representative, to ensure that the information and recommendations contained herein are brought to the attention of the engineer and contractor for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

4. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

REFERENCES

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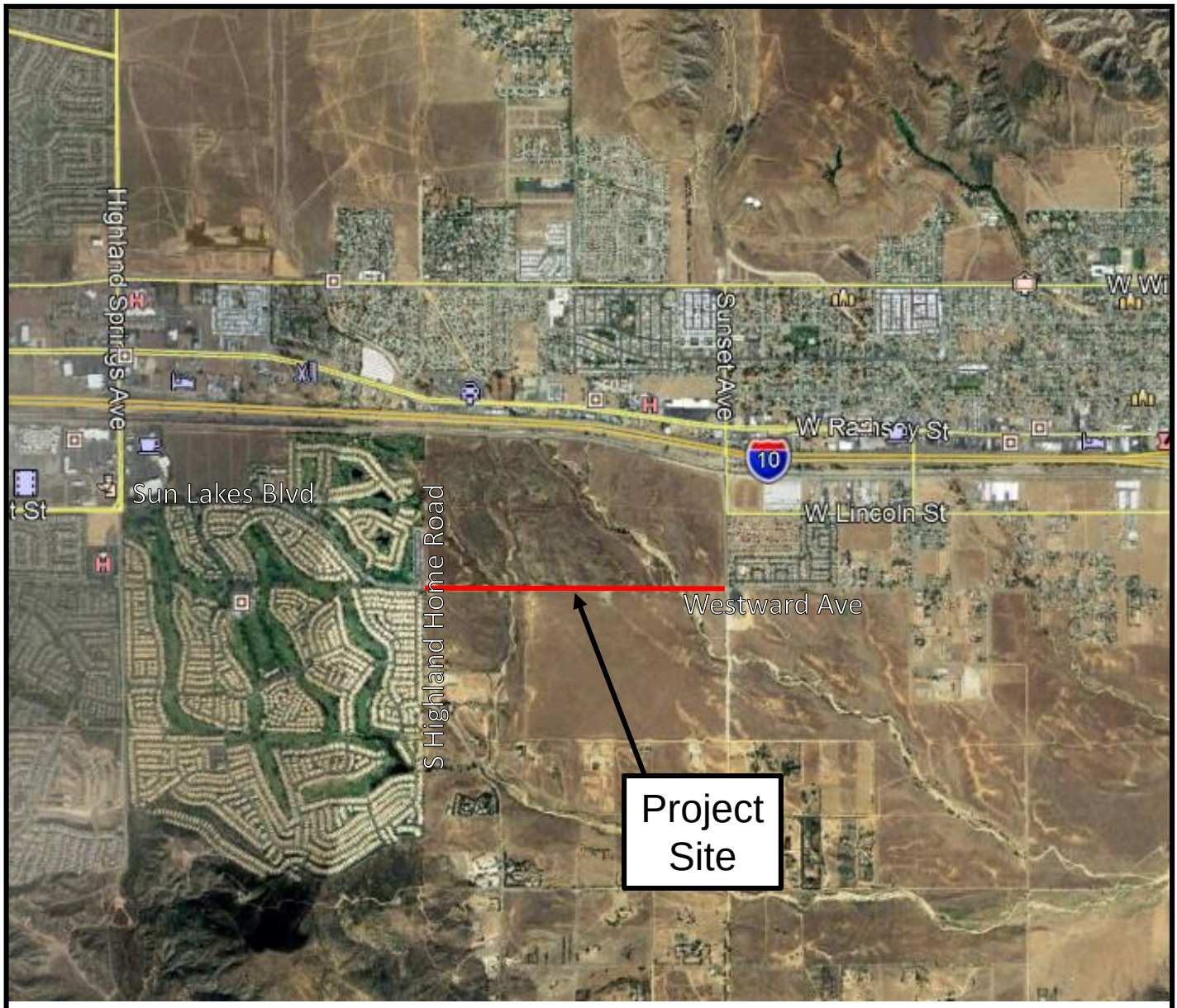

SOURCE: Google, Inc., 2019, Google Earth Pro

VICINITY MAP

GEOCON
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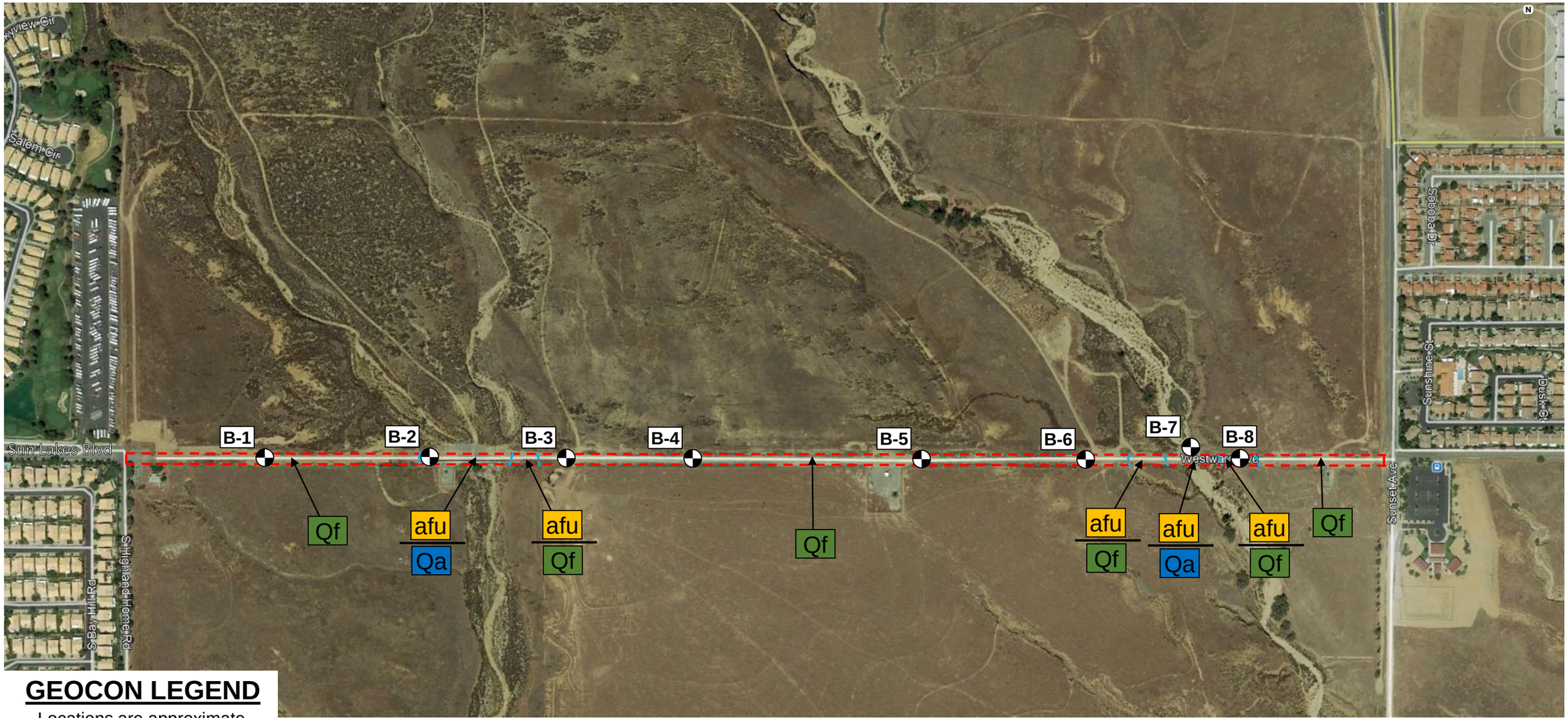
ATS		

SUN LAKES BOULEVARD REALIGNMENT
SOUTH HIGHLAND HOME ROAD TO
SUNSET AVENUE
BANNING, CALIFORNIA

OCTOBER 2019	PROJECT NO. T2881-22-01	FIG. 1



GEOCON LEGEND

Locations are approximate

- ------ ..... PROJECT BOUNDARY
- ---------- ..... INFERRED GEOLOGIC CONTACT
- B-8 ..... BORING LOCATION
- afu ..... UNDOCUMENTED FILL
- Qa ..... ALLUVIUM
- Qf ..... ALLUVIAL FAN OF SAN GORGONIO PASS

0 430 860

SCALE 1" = 430'

N

SOURCE: Google, Inc., 2019, Google Earth Pro

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GEOLOGIC MAP

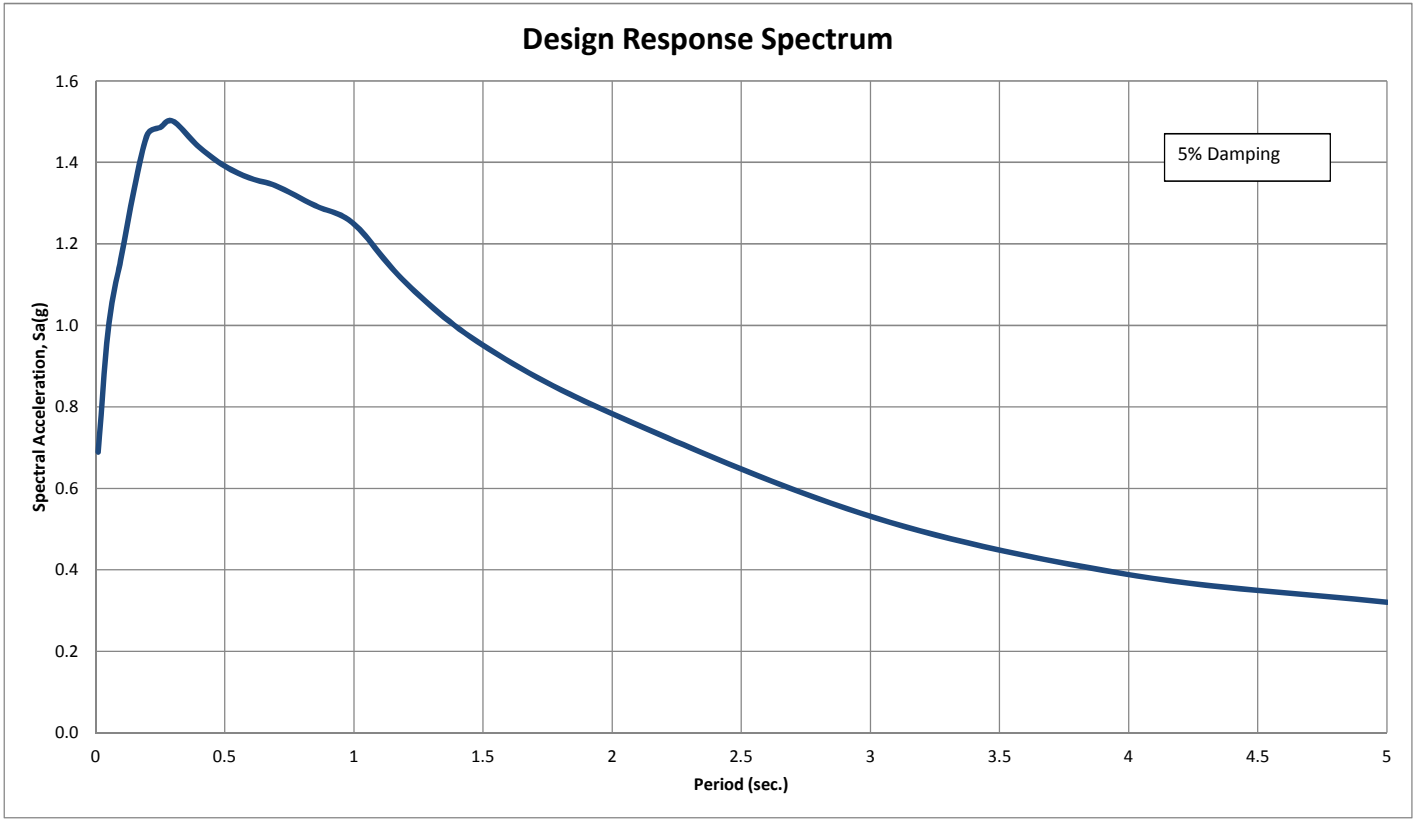
SUN LAKES BOULEVARD REALIGNMENT
SOUTH HIGHLAND HOME ROAD TO
SUNSET AVENUE
BANNING, CALIFORNIA

ATS			OCTOBER 2019	PROJECT NO. T2881-22-01	FIG. 2

Seismic Design Data for:

SUN LAKES BOULEVARD REALIGNMENT
BANNING, CALIFORNIA

Period (s)	Spectral Acceleration, Sa (g)
0.010	0.689
0.050	0.998
0.100	1.170
0.150	1.336
0.200	1.468
0.250	1.486
0.300	1.501
0.400	1.438
0.500	1.391
0.600	1.361
0.700	1.342
0.850	1.294
1.000	1.249
1.200	1.105
1.500	0.951
2.000	0.783
3.000	0.531
4.000	0.388
5.000	0.320



Latitude
33.9179
Longitude
-116.9197

Seismic Loading Table

Soil Profile (V_{S30}): 248 m/s

Magnitude: M = 7.0

PGA: 0.689 g

The Design Response Spectrum is the upper envelope of the deterministic and probabilistic response spectrum, but not less than the Minimum Deterministic Spectrum for California. The deterministic spectrum is obtained by using the average using the 2008 Campbell-Bozorgnia and the 2008 Chiou-Youngs ground motion prediction equations. Probabilistic response spectrum is obtained for 5 percent probability of exceedance in 50 years from the 2008 USGS Interactive Deaggregation web tool.

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SUN LAKES BOULEVARD REALIGNMENT

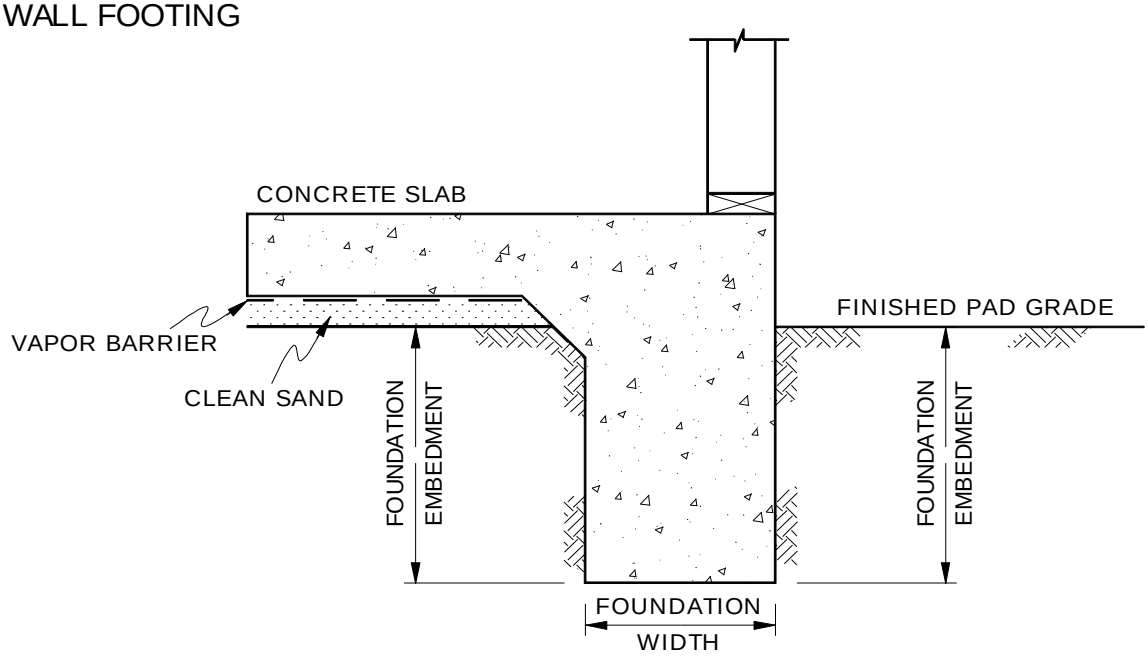
SOUTH HIGHLAND HOME ROAD TO SUNSET AVENUE

BANNING, CALIFORNIA

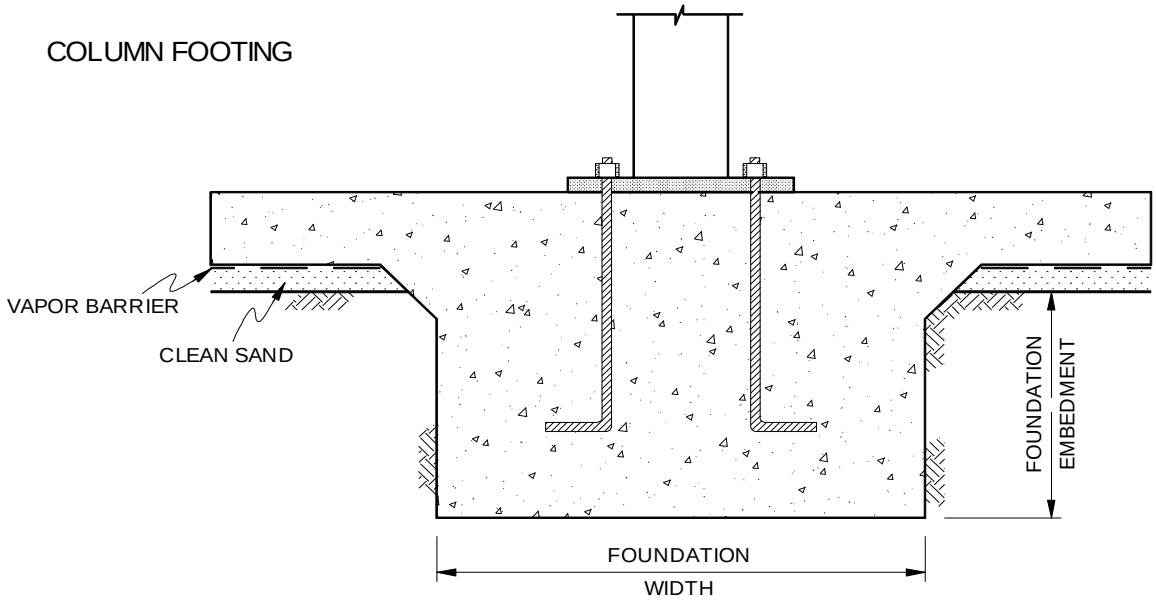
DESIGN RESPONSE SPECTRUM

OCTOBER 2019	T2881-22-01	FIGURE 3

WALL FOOTING



COLUMN FOOTING



NOTE: SEE REPORT FOR FOUNDATION WIDTH AND DEPTH RECOMMENDATION

NO SCALE

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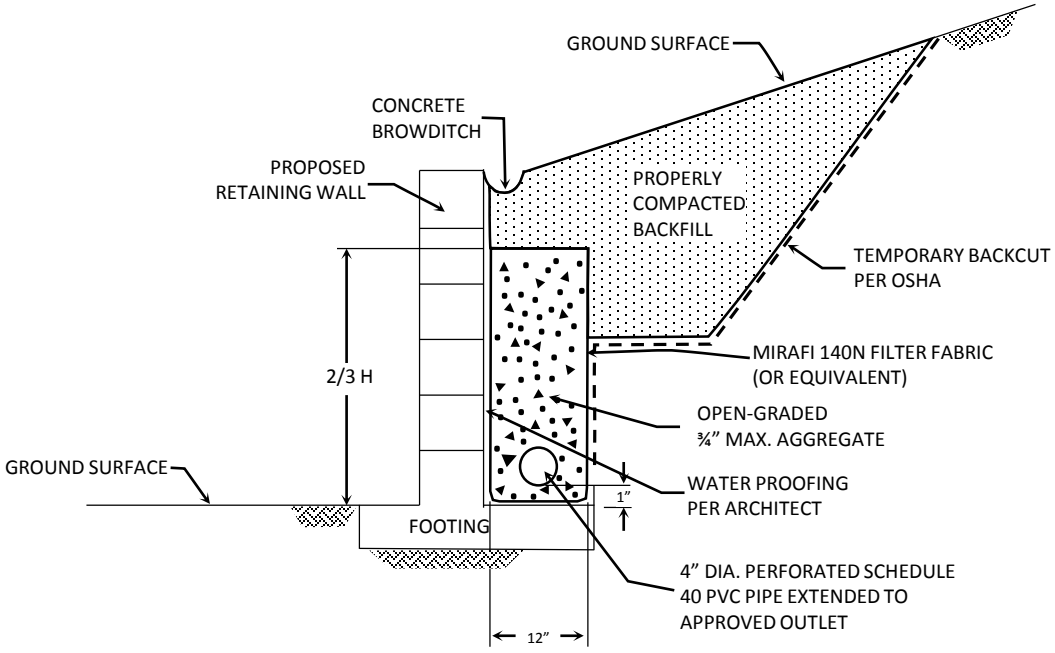
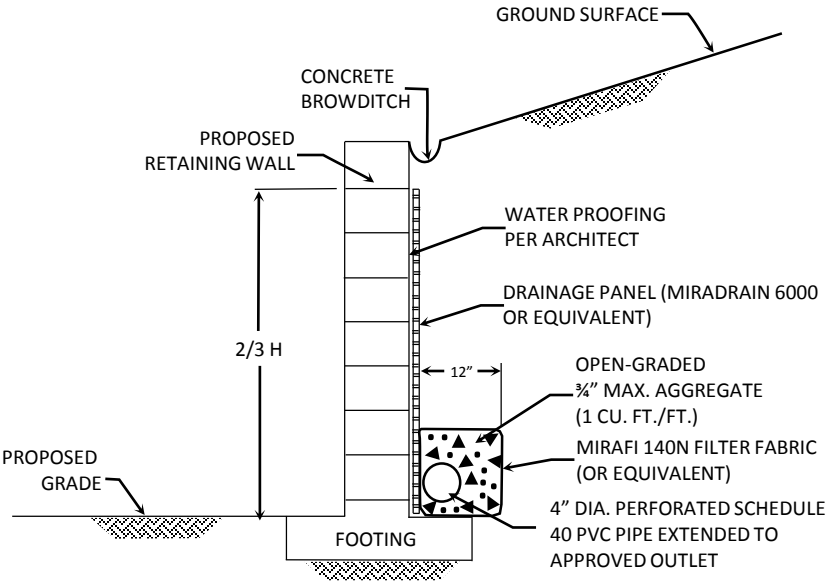
WALL / COLUMN FOOTING DETAIL

SUN LAKES BOULEVARD REALIGNMENT
SOUTH HIGHLAND HOME ROAD TO
SUNSET AVENUE
BANNING, CALIFORNIA

OCTOBER 2019	PROJECT NO. T2881-22-01	FIG. 4





NOTES:

DRAIN SHOULD BE UNFORMLY SLOPED TO GRAVITY OUTLET
OR TO A SUMP WHERE WATER CAN BE REMOVED BY PUMPIMG

CONCRETE BROW DITCH RECOMMENDED FOR SLOPE HEIGHTS
GREATER THAN 6 FEET

NO SCALE

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TYPICAL RETAINING WALL DRAIN DETAIL

SUN LAKES BOULEVARD REALIGNMENT
SOUTH HIGHLAND HOME ROAD TO
SUNSET AVENUE
BANNING, CALIFORNIA

OCTOBER 2019	PROJECT NO. T2881-22-01	FIG. 5

APPENDIX A

APPENDIX A

EXPLORATORY EXCAVATIONS

We performed the field investigation on September 17, 2019. Our subsurface exploration consisted of excavating eight geotechnical borings utilizing a truck-mounted, hollow-stem auger drill rig. The borings were drilled to depths of 6½ and 26½ feet below the existing ground surface in areas of the planned improvements. We collected bulk and relatively undisturbed samples from the borings by driving a 3-inch O. D., California Modified Sampler into the "undisturbed" soil mass with blows from a 140-pound hammer falling 30 inches or a slide hammer. The California Modified Sampler was equipped with 1-inch high by 2⅜-inch inside diameter brass sampler rings to facilitate removal and testing. Bulk and relatively undisturbed samples of soils were transported to our laboratory for testing.

The soil conditions encountered in the borings were visually examined, classified and logged in general accordance with the Unified Soil Classification System (USCS). Logs of the borings are presented on Figures A-1 through A-8. The logs depict the soil and geologic conditions encountered and the depth at which samples were obtained. The approximate locations of the borings are indicated the *Geologic Map* (Figure 2).

PROJECT NO. T2881-22-01

BORING B-1

ELEV. (MSL.) **2,495** DATE COMPLETED **9/17/19**

EQUIPMENT **HOLLOW STEM AUGER** BY: **A.Shoashekan**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	B-1@0-5			SM	**ALLUVIAL FAN OF THE SAN GORGONIO PASS (Qf)** Silty SAND, dense, damp, reddish brown; fine to medium sand with few coarse sand			
2								
	B-1@2.5			SC	Clayey SAND, dense, moist, light reddish brown; fine to medium sand; calcium carbonate deposits; porous	75	120.4	9.3
4								
	B-1@5				- becomes very dense	96	115.3	8.5
6								
					Total Depth = 6'-6" Groundwater not encountered Backfilled with cuttings 9/17/2019			

Figure A-1,
Log of Boring B-1, Page 1 of 1

T2881-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. T2881-22-01

BORING B-2

ELEV. (MSL.) **2,472** DATE COMPLETED **9/17/19**

EQUIPMENT **HOLLOW STEM AUGER** BY: **A.Shoashekan**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0				SP-SM	**ALLUVIUM (Qa)** Poorly-graded SAND with silt and some gravel, dense, damp, reddish brown; fine to medium sand with few coarse sand			
2	B-2@2.5			SM	Silty SAND, medium dense, moist, brown; fine sand; porous	24		
4	B-2@5			SP-SM	Poorly-graded SAND with silt, medium dense, moist, yellowish brown; fine to medium sand	17		
6	B-2@7.5			SM	Silty SAND, medium dense, moist, yellowish brown; fine sand; porous	17		
8	B-2@10				-becomes damp; porous; increase in sand content	25	118.0	6.9
10	B-2@10-15							
12								
14	B-2@15			SP-SM	**ALLUVIAL FAN OF THE SAN GORGONIO PASS (Qf)** Poorly-graded SAND with silt and little gravel, dense, wet, yellowish brown; fine to coarse sand	73		
16								
18								
20	B-2@20					66	118.2	7.5
22								
24	B-2@25				-becomes medium dense	36		
26				CL	Sandy CLAY, stiff, moist, red; fine to coarse sand; porous; manganese staining			

Total Depth = 26'-6"
Groundwater not encountered
Backfilled with cuttings 9/17/2019

Figure A-2,
Log of Boring B-2, Page 1 of 1

T2881-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. T2881-22-01

BORING B-3

ELEV. (MSL.) **2,488** DATE COMPLETED **9/17/19**

EQUIPMENT **HOLLOW STEM AUGER** BY: **A.Shoashekan**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0				SC	**ALLUVIAL FAN OF THE SAN GORGONIO PASS (Qf)** Clayey SAND, very dense, damp, reddish brown; fine to medium sand			
2	B-3@2.5				-becomes moist	50/5"	111.4	10.3
4								
6	B-3@5			SP	Poorly-graded SAND, very dense, moist, olive; fine to medium sand; manganese staining, granitic clast	50/6"	114.7	6.8
8	B-3@7.5			SP-SM	Poorly-graded SAND with silt, very dense, moist, light olive brown; fine to medium sand; granitic clast	98/11"		
10	B-3@10			SM	Silty SAND, dense, moist, reddish brown; fine sand	64		
12								
14								
16	B-3@15			SP	Poorly-graded SAND, very dense, moist, yellowish brown; medium sand; granictic clast	88/10"		
18								
20	B-3@20				- fine to coarse sand; granitic clast	50/6"		
22								
24								
26	B-3@25				- becomes olive yellow	95		
					Total Depth = 26'-6" Groundwater not encountered Backfilled with cuttings 9/17/2019			

T2881-22-01 BORING LOGS.GPJ

Figure A-3,
Log of Boring B-3, Page 1 of 1

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. T2881-22-01

BORING B-4

ELEV. (MSL.) **2,478** DATE COMPLETED **9/17/19**

EQUIPMENT **HOLLOW STEM AUGER** BY: **A.Shoashekan**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	B-4@0-5			SM	**ALLUVIAL FAN OF THE SAN GORGONIO PASS (Qf)** Silty SAND with few gravel, medium dense, damp, reddish brown; fine to medium sand			
2	B-4@2.5			SC	Clayey SAND, medium dense, damp, reddish brown; fine to medium sand; calcium carbonate stringers	26	124.8	6.8
4	B-4@5				-becomes moist	28	124.5	8.5
6					Total Depth = 6'-6" Groundwater not encountered Backfilled with cuttings 9/17/2019			

Figure A-4,
Log of Boring B-4, Page 1 of 1

T2881-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. T2881-22-01

BORING B-5

ELEV. (MSL.) **2,463** DATE COMPLETED **9/17/19**

EQUIPMENT **HOLLOW STEM AUGER** BY: **A.Shoashekan**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	B-5@0-5			SC	**ALLUVIAL FAN OF THE SAN GORGONIO PASS (Qf)** Clayey SAND, dense, damp, brown; fine to medium sand with few coarse sand			
2	B-5@2.5				-becomes medium dense, moist; calcium carbonate stringers; porous	38	125.5	8.0
4								
6	B-5@5			SM	Silty SAND, dense, moist, yellowish brown; fine to medium sand; porous; trace calcium carbonate stringers	50	125.0	10.3
					Total Depth = 6'-6" Groundwater not encountered Backfilled with cuttings 9/17/2019			

Figure A-5,
Log of Boring B-5, Page 1 of 1

T2881-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. T2881-22-01

BORING B-6

ELEV. (MSL.) **2,440** DATE COMPLETED **9/17/19**

EQUIPMENT **HOLLOW STEM AUGER** BY: **A.Shoashekan**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0				SM	**ALLUVIAL FAN OF THE SAN GORGONIO PASS (Qf)** Silty SAND, loose, dry, light brownish gray; fine sand			
2	B-6@2.5				-becomes damp; trace porosity	15	109.8	6.0
4	B-6@5				-increase in porosity	14	111.1	6.6
6	B-6@7.5					16		
8	B-6@10				-becomes medium dense	20		
10								
12								
14	B-6@15			SP	Poorly-graded SAND, medium dense, moist, light yellowish brown; fine to coarse sand	18		
16								
18	B-6@20			SW	Well-graded SAND, medium dense, moist, light yellowish brown; fine to coarse sand	43		
20								
22								
24	B-6@25			SP-SM	Poorly-graded SAND with silt, medium dense, moist, yellowish brown; fine sand; trace calcium carbonate stringers	29		
26					Total Depth = 26'-6" Groundwater not encountered Backfilled with cuttings 9/17/2019			

Figure A-6,
Log of Boring B-6, Page 1 of 1

T2881-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. T2881-22-01

BORING B-7

ELEV. (MSL.) **2,419** DATE COMPLETED **9/17/19**

EQUIPMENT **HOLLOW STEM AUGER** BY: **A.Shoashekan**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0				SP-SM	**PAVEMENT** 4" asphalt concrete section			
2					**UNDOCUMENTED FILL (afu)** Poorly-graded SAND with silt, loose, dry, yellowish brown;fine to coarse sand			
	B-7@2.5			SM		12		
4					Silty SAND, loose, moist, olive brown; fine sand			
	B-7@5			SP-SM	**ALLUVIUM (Qa)** Poorly-graded SAND with silt, loose, moist, olive brown; fine sand	14	107.6	5.3
6								
8	B-7@7.5			SM	Silty SAND, medium dense, moist, yellowish brown; fine to medium sand with few coarse; trace calcium carbonate stringers	28	113.5	12.2
	B-7@8-13			SP	Poorly-graded SAND, medium dense, moist, yellowish brown; fine to coarse sand			
10	B-7@10			SP-SM	Poorly-graded SAND with silt, loose, damp, yellowish brown; fine to medium sand; trace calcium carbonate stringers; trace porosity	12	112.6	3.1
12								
14								
	B-7@15			SM	**ALLUVIAL FAN OF THE SAN GORGONIO PASS (Qf)** Silty SAND, medium dense, moist, olive brown; fine to medium sand; trace calcium carbonate stringers; trace porosity	35		
16								
18								
20	B-7@20				-becomes yellowish brown; fine to coarse sand	31	117.9	8.3
22								
24								
	B-7@25				-fine to medium sand	34		
26								
					Total Depth = 26'-6" Groundwater not encountered Backfilled with cuttings 9/17/2019			

Figure A-7,
Log of Boring B-7, Page 1 of 1

T2881-22-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ... SAMPLING UNSUCCESSFUL
- ... STANDARD PENETRATION TEST
- ... DRIVE SAMPLE (UNDISTURBED)
- ... DISTURBED OR BAG SAMPLE
- ... CHUNK SAMPLE
- ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. T2881-22-01

BORING B-8

ELEV. (MSL.) **2,424** DATE COMPLETED **9/17/19**

EQUIPMENT **HOLLOW STEM AUGER** BY: **A.Shoashekan**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	B-8@0-5			SM	**UNDOCUMENTED FILL (afu)** Silty SAND, medium dense, dry, light yellowish brown; fine sand with few medium and coarse sand			
2	B-8@2.5				- becomes damp	39	110.7	6.0
4					- debris			
6	B-8@5			SM	**ALLUVIAL FAN OF THE SAN GORGONIO PASS (Qf)** Silty SAND, loose, damp, light yellowish brown; fine to medium sand	12	107.6	5.3
8	B-8@7.5				- becomes medium dense; porous; calcium carbonate stringers	22		
10	B-8@10					27		
12								
14								
16	B-8@15					31		
18								
20	B-8@20					46		
22								
24								
26	B-8@25			SW	Well-graded SAND, very dense, moist, light yellowish brown; fine to coarse sand	90		
					Total Depth = 26' -6" Groundwater not encountered Backfilled with cuttings 9/17/2019			

T2881-22-01 BORING LOGS.GPJ

Figure A-8,
Log of Boring B-8, Page 1 of 1

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

APPENDIX B

APPENDIX B

LABORATORY TESTING

We performed laboratory tests in accordance with current generally accepted test methods of ASTM International (ASTM) or other suggested procedures. We analyzed selected soil samples for maximum dry density and optimum moisture content, grain size distribution, soil resistance value (R-value), and direct shear strength. The results of the laboratory tests are presented on Figures B-1 through B-8. The in-place dry density and moisture content of the samples tested are presented on the boring logs in *Appendix A.*

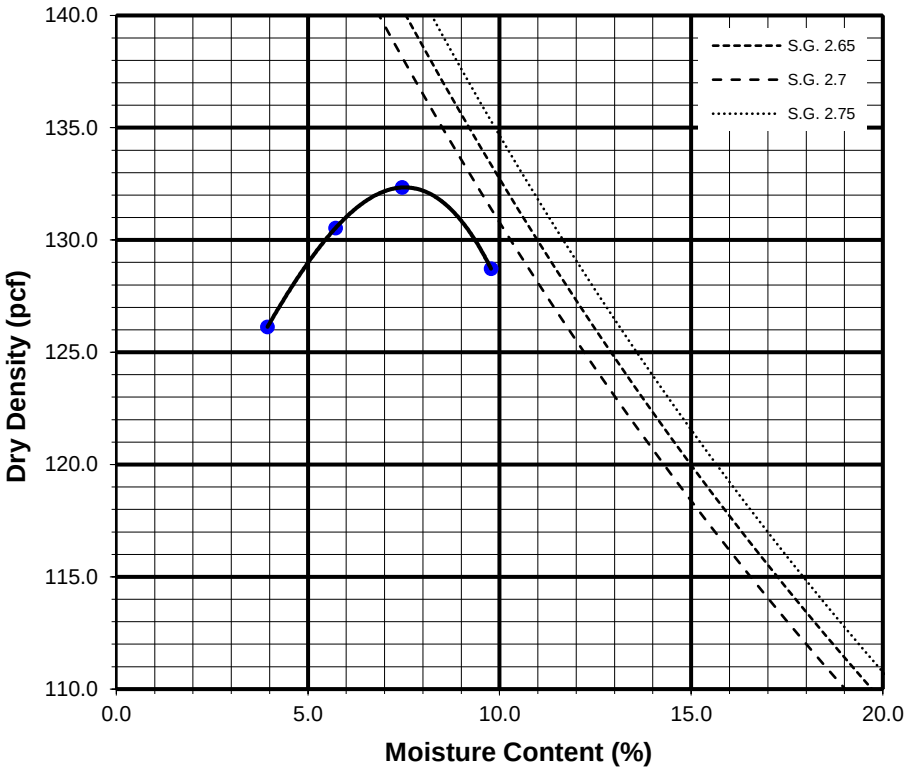
Sample No:

B-7@8-13'	silty SAND (SM), yellowish brown

TEST NO.		1	2	3	4	5	6
Wt. Compacted Soil + Mold	(g)	6367	6430	6417	6262		
Weight of Mold	(g)	4282	4282	4282	4282		
Net Weight of Soil	(g)	2085	2148	2135	1980		
Wet Weight of Soil + Cont.	(g)	760.7	790.2	788.5	763.9		
Dry Weight of Soil + Cont.	(g)	733.5	753.1	741.3	744.7		
Weight of Container	(g)	258.2	255.5	258.5	258.1		
Moisture Content	(%)	5.7	7.5	9.8	3.9		
Wet Density	(pcf)	138.0	142.2	141.3	131.1		
Dry Density	(pcf)	130.5	132.3	128.7	126.1		

Maximum Dry Density (pcf)	**132.5**

Optimum Moisture Content (%)	**8.0**



Preparation Method: B

GEOCON

MODIFIED COMPACTION TEST OF SOILS

ASTM D-1557

Checked by: ATS

Project No.: T2881-22-01

Sun Lakes Boulevard Realignment
South Highland Home Road to Sunset Aveune
Banning, California

October 2019 Figure B-1

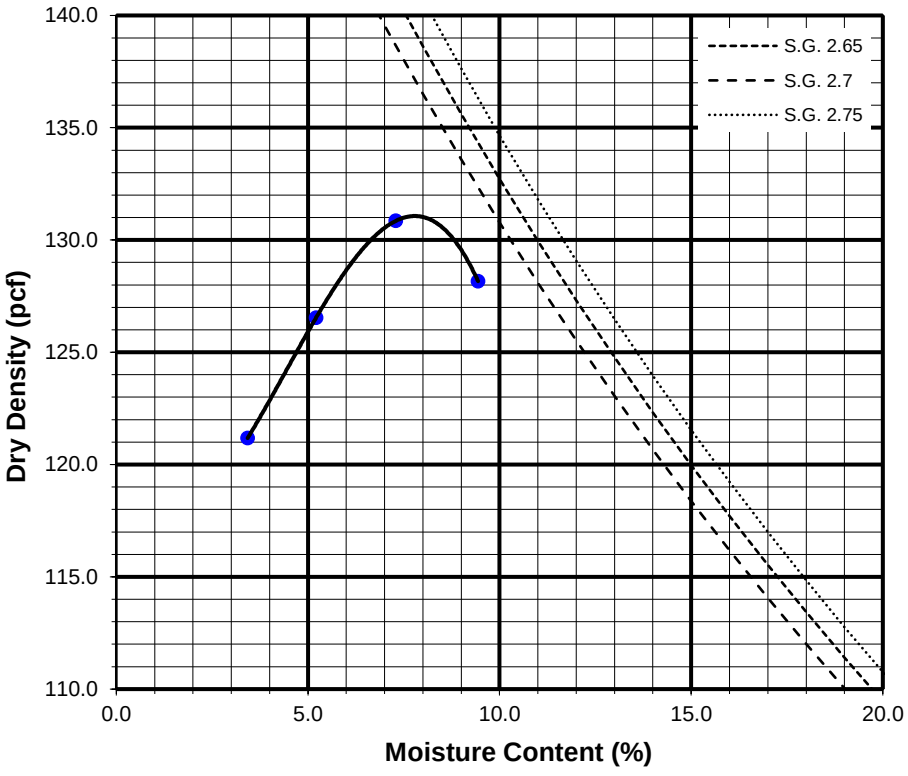
Sample No:

B-4 & B-5 @0-5' MIX	clayey SAND (SC), reddish brown

TEST NO.		1	2	3	4	5	6
Wt. Compacted Soil + Mold	(g)	6287	6396	6394	6169		
Weight of Mold	(g)	4282	4282	4282	4282		
Net Weight of Soil	(g)	2005	2114	2112	1887		
Wet Weight of Soil + Cont.	(g)	755.4	773.1	757.2	752.7		
Dry Weight of Soil + Cont.	(g)	730.7	738.0	713.9	736.3		
Weight of Container	(g)	256.9	256.7	255.2	257.6		
Moisture Content	(%)	5.2	7.3	9.4	3.4		
Wet Density	(pcf)	133.1	140.4	140.3	125.3		
Dry Density	(pcf)	126.5	130.9	128.2	121.2		

Maximum Dry Density (pcf)	**131.5**
Bulk Specific Gravity (dry)	**2.62**
Corrected Maximum Dry Density (pcf)	**133.5**

Optimum Moisture Content (%)	**8.0**
Oversized Fraction (%)	**7.0**
Corrected Moisture Content (%)	**7.5**



Preparation Method: A

GEOCON

MODIFIED COMPACTION TEST OF SOILS

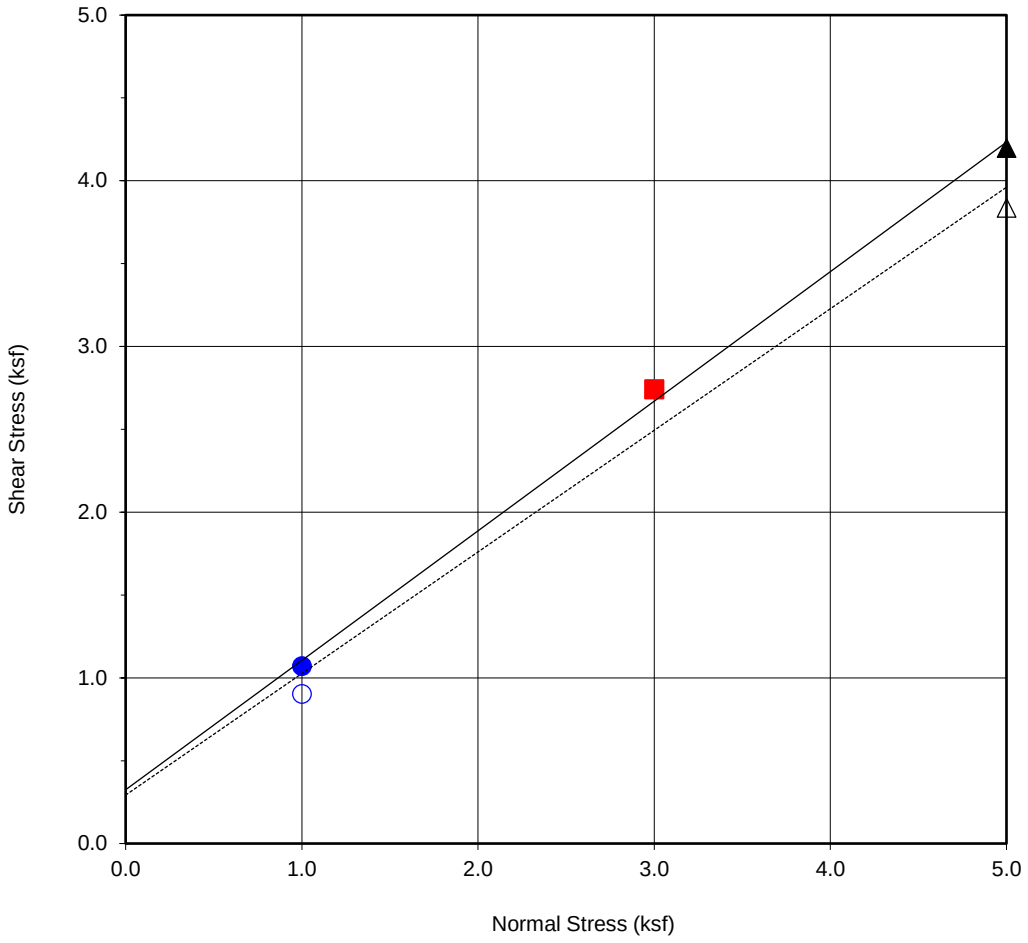
ASTM D-1557

Checked by: ATS

Project No.: T2881-22-01

Sun Lakes Boulevard Realignment
South Highland Home Road to Sunset Aveune
Banning, California

October 2019 Figure B-2



Boring No.	**B-2**
Sample No.	**B-2@10'**
Depth (ft)	**10**
Sample Type:	Ring

Soil Identification:

silty SAND (SM), yellowish brown

Strength Parameters

	C (psf)	ϕ (°)
Peak	324	38.0
Ultimate	292	36.3

Normal Strest (kip/ft2)	1	3	5
Peak Shear Stress (kip/ft²)	● 1.07	■ 2.74	▲ 4.20
Shear Stress @ End of Test (ksf)	○ 0.90	□ 2.74	△ 3.84
Deformation Rate (in./min.)	0.05	0.05	0.05
Initial Sample Height (in.)	1.0	1.0	1.0
Ring Inside Diameter (in.)	2.375	2.375	2.375
Initial Moisture Content (%)	10.2	11.5	9.9
Initial Dry Density (pcf)	114.3	99.3	115.2
Initial Degree of Saturation (%)	58.0	44.7	57.8
Soil Height Before Shearing (in.)	1.2	1.2	1.2
Final Moisture Content (%)	15.5	14.3	20.3

GEOCON

DIRECT SHEAR TEST RESULTS

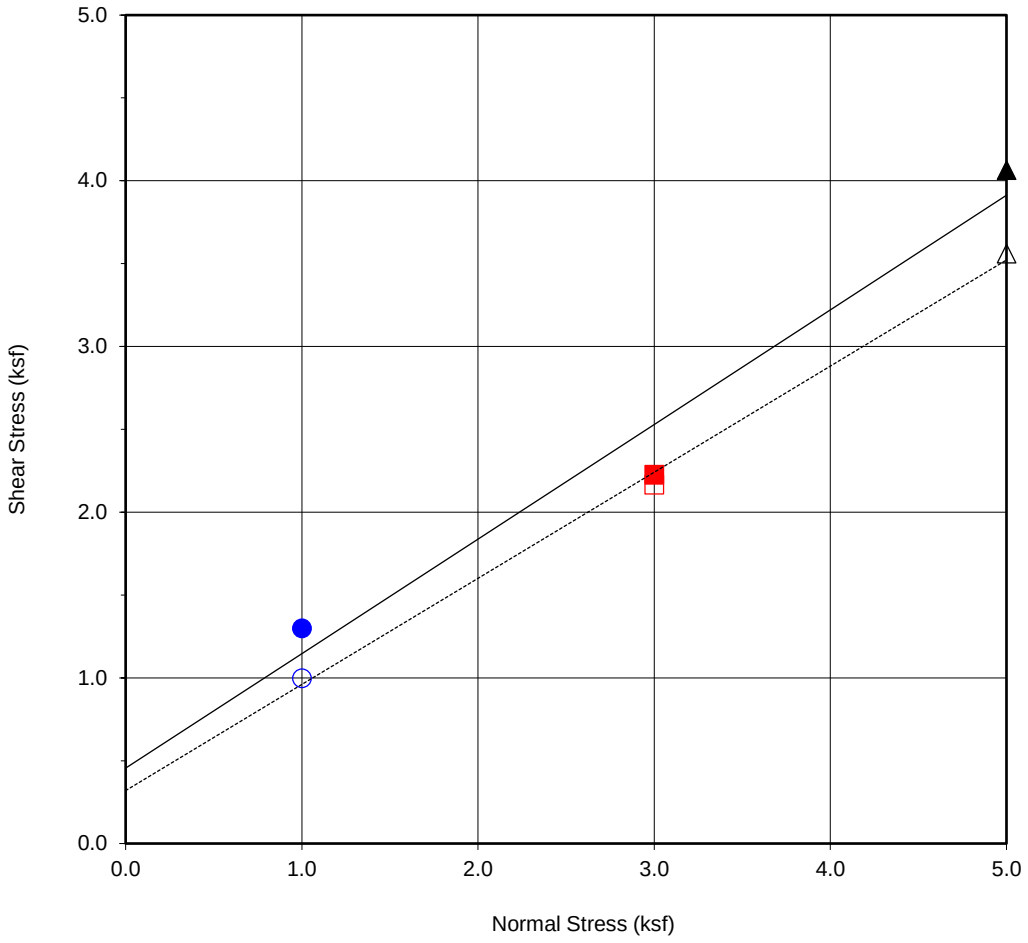
Consolidated Drained ASTM D-3080

Checked by: ATS

Project No.: T2881-22-01

Sun Lakes Boulevard Realignment
South Highland Home Road to Sunset Aveune
Banning, California

October 2019 Figure B-3



Boring No.	**B-7**
Sample No.	**B-7@7.5**
Depth (ft)	**7.5**
Sample Type:	Ring

Soil Identification:

Silty SAND (SM), yellowish brown

Strength Parameters

	C (psf)	ϕ (^{o})
Peak	455	34.7
Ultimate	320	32.6

Normal Strest (kip/ft2)	1	3	5
Peak Shear Stress (kip/ft²)	● 1.30	■ 2.23	▲ 4.07
Shear Stress @ End of Test (ksf)	○ 1.00	□ 2.17	△ 3.56
Deformation Rate (in./min.)	0.05	0.05	0.05
Initial Sample Height (in.)	1.0	1.0	1.0
Ring Inside Diameter (in.)	2.375	2.375	2.375
Initial Moisture Content (%)	13.0	13.2	10.3
Initial Dry Density (pcf)	115.3	109.8	115.4
Initial Degree of Saturation (%)	76.2	66.3	60.4
Soil Height Before Shearing (in.)	1.2	1.2	1.2
Final Moisture Content (%)	16.7	16.9	15.6

GEOCON

DIRECT SHEAR TEST RESULTS

Consolidated Drained ASTM D-3080

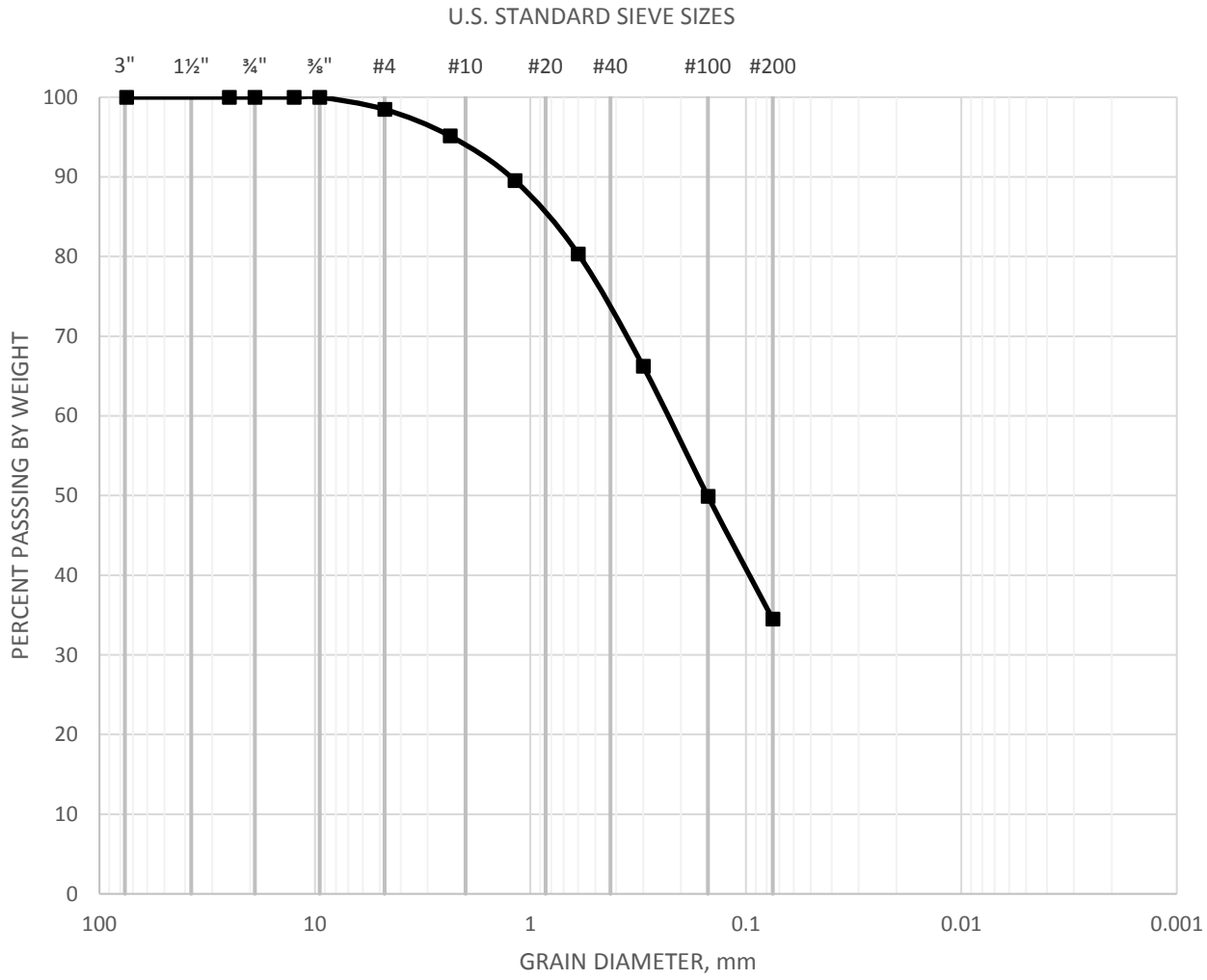
Checked by: ATS

Project No.: T2881-22-01

Sun Lakes Boulevard Realignment
South Highland Home Road to Sunset Aveune
Banning, California

October 2019 Figure B-4

GRAVEL		SAND			SILT AND CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



SAMPLE	CLASSIFICATION	D60	D30	D10
B-2 @ 7.5	silty SAND (SM), yellowish brown	0.22		

GEOCON

GRAIN SIZE DISTRIBUTION

ASTM D-422

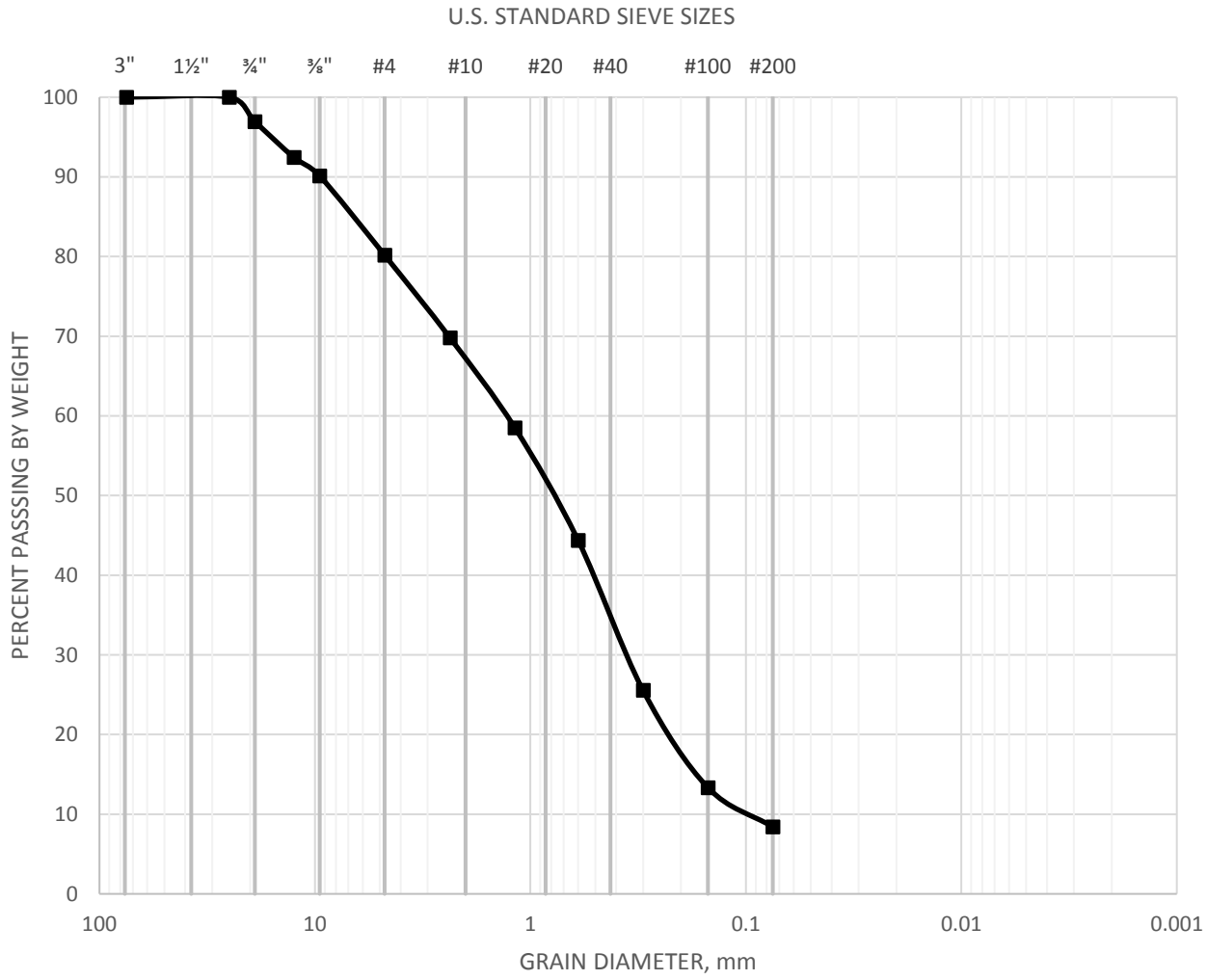
Checked by: ATS

Project No.: T2881-22-01

Sun Lakes Boulevard Realignment
South Highland Home Road to Sunset Aveune
Banning, California

October 2019 Figure B-5

GRAVEL		SAND			SILT AND CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



SAMPLE	CLASSIFICATION	D60	D30	D10
B-2 @ 15'	poorly-graded SAND with silt and little gravel (SP-SM), yellowish brown	1.2	0.34	0.097

GEOCON

GRAIN SIZE DISTRIBUTION

ASTM D-422

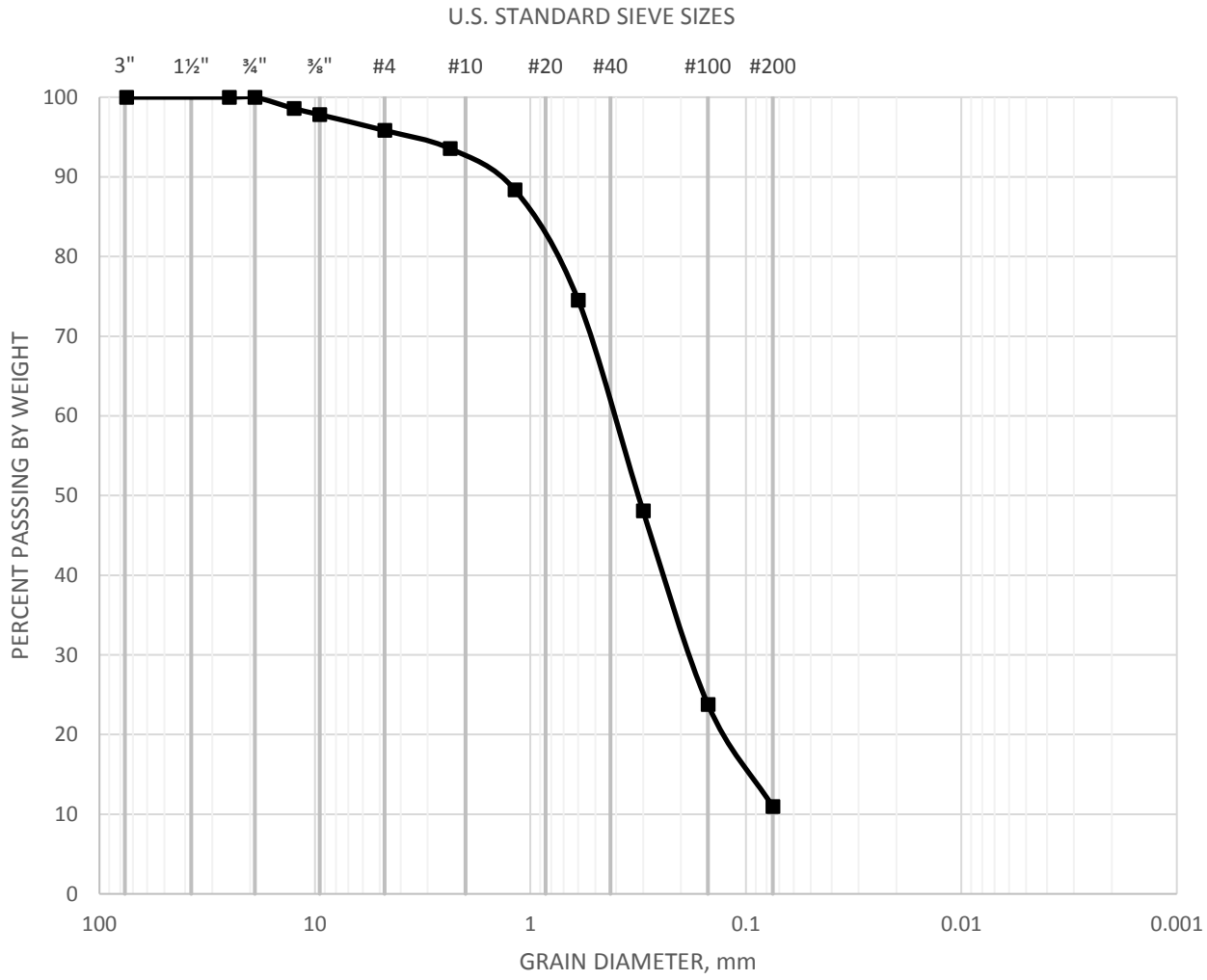
Checked by: ATS

Project No.: T2881-22-01

Sun Lakes Boulevard Realignment
South Highland Home Road to Sunset Aveune
Banning, California

October 2019 Figure B-6

GRAVEL		SAND			SILT AND CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



SAMPLE	CLASSIFICATION	D60	D30	D10
B-7 @ 10'	poorly-graded SAND with silt (SP-SM), yellowish brown	0.41	0.18	0.12

GEOCON

GRAIN SIZE DISTRIBUTION

ASTM D-422

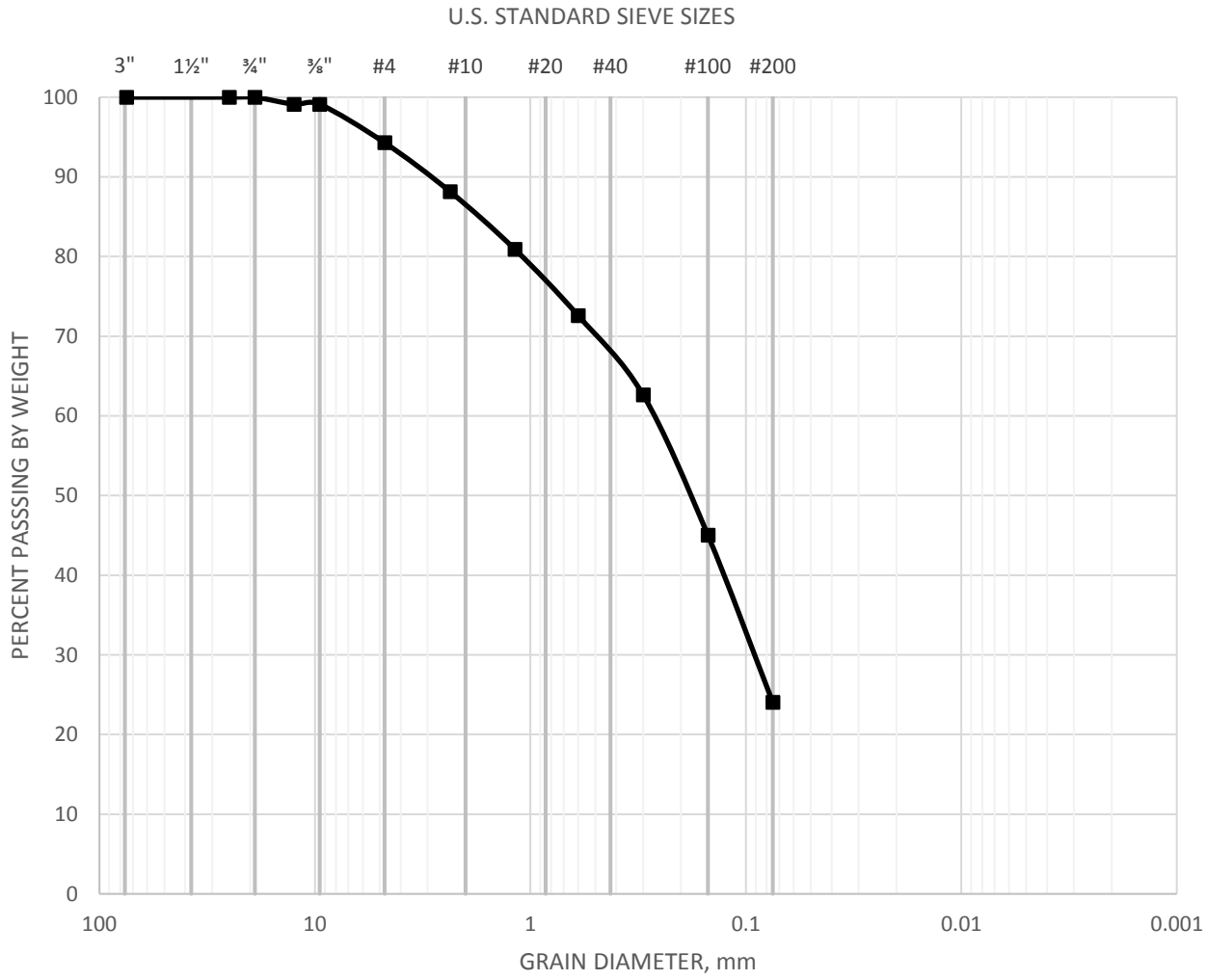
Checked by: ATS

Project No.: T2881-22-01

Sun Lakes Boulevard Realignment
South Highland Home Road to Sunset Aveune
Banning, California

October 2019 Figure B-7

GRAVEL		SAND			SILT AND CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



SAMPLE	CLASSIFICATION	D60	D30	D10
B-7 @ 20'	silty SAND (SM), yellowish brown	0.25	0.092	

GEOCON

GRAIN SIZE DISTRIBUTION

ASTM D-422

Checked by: ATS

Project No.: T2881-22-01

Sun Lakes Boulevard Realignment
South Highland Home Road to Sunset Aveune
Banning, California

October 2019 Figure B-8

APPENDIX C

APPENDIX C

RECOMMENDED GRADING SPECIFICATIONS

FOR

SUN LAKES BOULEVARD REALIGNMENT
SOUTH HIGHLAND HOME ROAD TO SUNSET AVENUE
BANNING, CALIFORNIA

PROJECT NO. T2881-22-01

RECOMMENDED GRADING SPECIFICATIONS

1. GENERAL

1.1 These Recommended Grading Specifications shall be used in conjunction with the Geotechnical Report for the project prepared by Geocon. The recommendations contained in the text of the Geotechnical Report are a part of the earthwork and grading specifications and shall supersede the provisions contained hereinafter in the case of conflict.

1.2 Prior to the commencement of grading, a geotechnical consultant (Consultant) shall be employed for the purpose of observing earthwork procedures and testing the fills for substantial conformance with the recommendations of the Geotechnical Report and these specifications. The Consultant should provide adequate testing and observation services so that they may assess whether, in their opinion, the work was performed in substantial conformance with these specifications. It shall be the responsibility of the Contractor to assist the Consultant and keep them apprised of work schedules and changes so that personnel may be scheduled accordingly.

1.3 It shall be the sole responsibility of the Contractor to provide adequate equipment and methods to accomplish the work in accordance with applicable grading codes or agency ordinances, these specifications and the approved grading plans. If, in the opinion of the Consultant, unsatisfactory conditions such as questionable soil materials, poor moisture condition, inadequate compaction, and/or adverse weather result in a quality of work not in conformance with these specifications, the Consultant will be empowered to reject the work and recommend to the Owner that grading be stopped until the unacceptable conditions are corrected.

2. DEFINITIONS

2.1 **Owner** shall refer to the owner of the property or the entity on whose behalf the grading work is being performed and who has contracted with the Contractor to have grading performed.

2.2 **Contractor** shall refer to the Contractor performing the site grading work.

2.3 **Civil Engineer** or **Engineer of Work** shall refer to the California licensed Civil Engineer or consulting firm responsible for preparation of the grading plans, surveying and verifying as-graded topography.

2.4 **Consultant** shall refer to the soil engineering and engineering geology consulting firm retained to provide geotechnical services for the project.

2.5 **Soil Engineer** shall refer to a California licensed Civil Engineer retained by the Owner, who is experienced in the practice of geotechnical engineering. The Soil Engineer shall be responsible for having qualified representatives on-site to observe and test the Contractor's work for conformance with these specifications.

2.6 **Engineering Geologist** shall refer to a California licensed Engineering Geologist retained by the Owner to provide geologic observations and recommendations during the site grading.

2.7 **Geotechnical Report** shall refer to a soil report (including all addenda) which may include a geologic reconnaissance or geologic investigation that was prepared specifically for the development of the project for which these Recommended Grading Specifications are intended to apply.

3. MATERIALS

3.1 Materials for compacted fill shall consist of any soil excavated from the cut areas or imported to the site that, in the opinion of the Consultant, is suitable for use in construction of fills. In general, fill materials can be classified as *soil* fills, *soil-rock* fills or *rock* fills, as defined below.

3.1.1 **Soil fills** are defined as fills containing no rocks or hard lumps greater than 12 inches in maximum dimension and containing at least 40 percent by weight of material smaller than ¾ inch in size.

3.1.2 **Soil-rock fills** are defined as fills containing no rocks or hard lumps larger than 4 feet in maximum dimension and containing a sufficient matrix of soil fill to allow for proper compaction of soil fill around the rock fragments or hard lumps as specified in Paragraph 6.2. **Oversize rock** is defined as material greater than 12 inches.

3.1.3 **Rock fills** are defined as fills containing no rocks or hard lumps larger than 3 feet in maximum dimension and containing little or no fines. Fines are defined as material smaller than ¾ inch in maximum dimension. The quantity of fines shall be less than approximately 20 percent of the rock fill quantity.

3.2 Material of a perishable, spongy, or otherwise unsuitable nature as determined by the Consultant shall not be used in fills.

3.3 Materials used for fill, either imported or on-site, shall not contain hazardous materials as defined by the California Code of Regulations, Title 22, Division 4, Chapter 30, Articles 9

and 10; 40CFR; and any other applicable local, state or federal laws. The Consultant shall not be responsible for the identification or analysis of the potential presence of hazardous materials. However, if observations, odors or soil discoloration cause Consultant to suspect the presence of hazardous materials, the Consultant may request from the Owner the termination of grading operations within the affected area. Prior to resuming grading operations, the Owner shall provide a written report to the Consultant indicating that the suspected materials are not hazardous as defined by applicable laws and regulations.

3.4 The outer 15 feet of *soil-rock* fill slopes, measured horizontally, should be composed of properly compacted *soil* fill materials approved by the Consultant. *Rock* fill may extend to the slope face, provided that the slope is not steeper than 2:1 (horizontal:vertical) and a soil layer no thicker than 12 inches is track-walked onto the face for landscaping purposes. This procedure may be utilized provided it is acceptable to the governing agency, Owner and Consultant.

3.5 Samples of soil materials to be used for fill should be tested in the laboratory by the Consultant to determine the maximum density, optimum moisture content, and, where appropriate, shear strength, expansion, and gradation characteristics of the soil.

3.6 During grading, soil or groundwater conditions other than those identified in the Geotechnical Report may be encountered by the Contractor. The Consultant shall be notified immediately to evaluate the significance of the unanticipated condition

4. CLEARING AND PREPARING AREAS TO BE FILLED

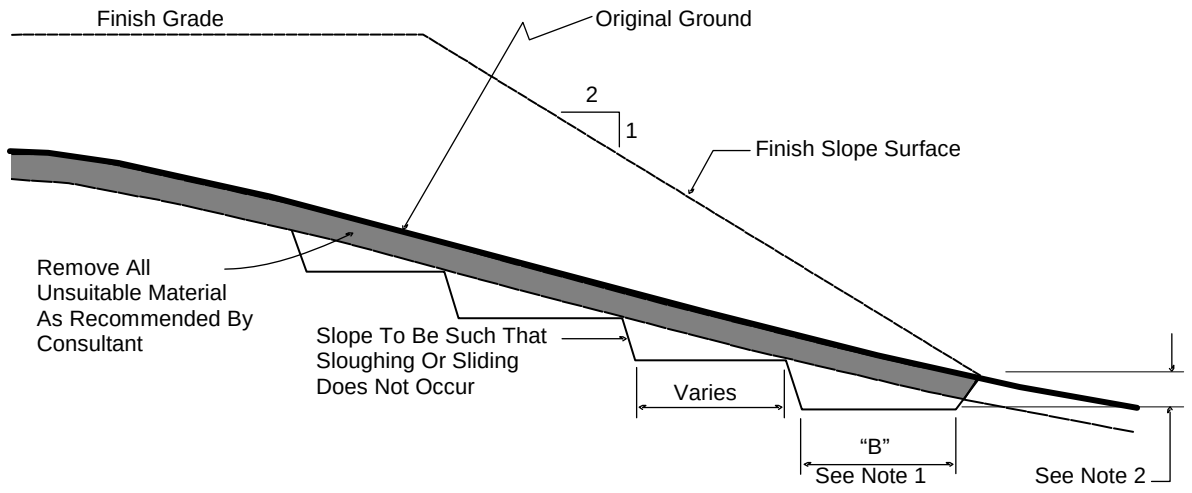
4.1 Areas to be excavated and filled shall be cleared and grubbed. Clearing shall consist of complete removal above the ground surface of trees, stumps, brush, vegetation, man-made structures, and similar debris. Grubbing shall consist of removal of stumps, roots, buried logs and other unsuitable material and shall be performed in areas to be graded. Roots and other projections exceeding 1½ inches in diameter shall be removed to a depth of 3 feet below the surface of the ground. Borrow areas shall be grubbed to the extent necessary to provide suitable fill materials.

4.2 Asphalt pavement material removed during clearing operations should be properly disposed at an approved off-site facility or in an acceptable area of the project evaluated by Geocon and the property owner. Concrete fragments that are free of reinforcing steel may be placed in fills, provided they are placed in accordance with Section 6.2 or 6.3 of this document.

4.3 After clearing and grubbing of organic matter and other unsuitable material, loose or porous soils shall be removed to the depth recommended in the Geotechnical Report. The depth of removal and compaction should be observed and approved by a representative of the Consultant. The exposed surface shall then be plowed or scarified to a minimum depth of 6 inches and until the surface is free from uneven features that would tend to prevent uniform compaction by the equipment to be used.

4.4 Where the slope ratio of the original ground is steeper than 5:1 (horizontal:vertical), or where recommended by the Consultant, the original ground should be benched in accordance with the following illustration.

TYPICAL BENCHING DETAIL



No Scale

DETAIL NOTES: (1) Key width "B" should be a minimum of 10 feet, or sufficiently wide to permit complete coverage with the compaction equipment used. The base of the key should be graded horizontal, or inclined slightly into the natural slope.

(2) The outside of the key should be below the topsoil or unsuitable surficial material and at least 2 feet into dense formational material. Where hard rock is exposed in the bottom of the key, the depth and configuration of the key may be modified as approved by the Consultant.

4.5 After areas to receive fill have been cleared and scarified, the surface should be moisture conditioned to achieve the proper moisture content, and compacted as recommended in Section 6 of these specifications.

5. COMPACTION EQUIPMENT

5.1 Compaction of *soil* or *soil-rock* fill shall be accomplished by sheepsfoot or segmented-steel wheeled rollers, vibratory rollers, multiple-wheel pneumatic-tired rollers, or other types of acceptable compaction equipment. Equipment shall be of such a design that it will be capable of compacting the *soil* or *soil-rock* fill to the specified relative compaction at the specified moisture content.

5.2 Compaction of *rock* fills shall be performed in accordance with Section 6.3.

6. PLACING, SPREADING AND COMPACTION OF FILL MATERIAL

6.1 *Soil* fill, as defined in Paragraph 3.1.1, shall be placed by the Contractor in accordance with the following recommendations:

6.1.1 *Soil* fill shall be placed by the Contractor in layers that, when compacted, should generally not exceed 8 inches. Each layer shall be spread evenly and shall be thoroughly mixed during spreading to obtain uniformity of material and moisture in each layer. The entire fill shall be constructed as a unit in nearly level lifts. Rock materials greater than 12 inches in maximum dimension shall be placed in accordance with Section 6.2 or 6.3 of these specifications.

6.1.2 In general, the *soil* fill shall be compacted at a moisture content at or above the optimum moisture content as determined by ASTM D 1557.

6.1.3 When the moisture content of *soil* fill is below that specified by the Consultant, water shall be added by the Contractor until the moisture content is in the range specified.

6.1.4 When the moisture content of the *soil* fill is above the range specified by the Consultant or too wet to achieve proper compaction, the *soil* fill shall be aerated by the Contractor by blading/mixing, or other satisfactory methods until the moisture content is within the range specified.

6.1.5 After each layer has been placed, mixed, and spread evenly, it shall be thoroughly compacted by the Contractor to a relative compaction of at least 90 percent. Relative compaction is defined as the ratio (expressed in percent) of the in-place dry density of the compacted fill to the maximum laboratory dry density as determined in accordance with ASTM D 1557. Compaction shall be continuous over the entire area, and compaction equipment shall make sufficient passes so that the specified minimum relative compaction has been achieved throughout the entire fill.

6.1.6 Where practical, soils having an Expansion Index greater than 50 should be placed at least 3 feet below finish pad grade and should be compacted at a moisture content generally 2 to 4 percent greater than the optimum moisture content for the material.

6.1.7 Properly compacted *soil* fill shall extend to the design surface of fill slopes. To achieve proper compaction, it is recommended that fill slopes be over-built by at least 3 feet and then cut to the design grade. This procedure is considered preferable to track-walking of slopes, as described in the following paragraph.

6.1.8 As an alternative to over-building of slopes, slope faces may be back-rolled with a heavy-duty loaded sheepsfoot or vibratory roller at maximum 4-foot fill height intervals. Upon completion, slopes should then be track-walked with a D-8 dozer or similar equipment, such that a dozer track covers all slope surfaces at least twice.

6.2 *Soil-rock* fill, as defined in Paragraph 3.1.2, shall be placed by the Contractor in accordance with the following recommendations:

6.2.1 Rocks larger than 12 inches but less than 4 feet in maximum dimension may be incorporated into the compacted *soil* fill, but shall be limited to the area measured 15 feet minimum horizontally from the slope face and 5 feet below finish grade or 3 feet below the deepest utility, whichever is deeper.

6.2.2 Rocks or rock fragments up to 4 feet in maximum dimension may either be individually placed or placed in windrows. Under certain conditions, rocks or rock fragments up to 10 feet in maximum dimension may be placed using similar methods. The acceptability of placing rock materials greater than 4 feet in maximum dimension shall be evaluated during grading as specific cases arise and shall be approved by the Consultant prior to placement.

6.2.3 For individual placement, sufficient space shall be provided between rocks to allow for passage of compaction equipment.

6.2.4 For windrow placement, the rocks should be placed in trenches excavated in properly compacted *soil* fill. Trenches should be approximately 5 feet wide and 4 feet deep in maximum dimension. The voids around and beneath rocks should be filled with approved granular soil having a Sand Equivalent of 30 or greater and should be compacted by flooding. Windrows may also be placed utilizing an "open-face" method in lieu of the trench procedure, however, this method should first be approved by the Consultant.

6.2.5 Windrows should generally be parallel to each other and may be placed either parallel to or perpendicular to the face of the slope depending on the site geometry. The minimum horizontal spacing for windrows shall be 12 feet center-to-center with a 5-foot stagger or offset from lower courses to next overlying course. The minimum vertical spacing between windrow courses shall be 2 feet from the top of a lower windrow to the bottom of the next higher windrow.

6.2.6 Rock placement, fill placement and flooding of approved granular soil in the windrows should be continuously observed by the Consultant.

6.3 *Rock* fills, as defined in Section 3.1.3, shall be placed by the Contractor in accordance with the following recommendations:

6.3.1 The base of the *rock* fill shall be placed on a sloping surface (minimum slope of 2 percent). The surface shall slope toward suitable subdrainage outlet facilities. The *rock* fills shall be provided with subdrains during construction so that a hydrostatic pressure buildup does not develop. The subdrains shall be permanently connected to controlled drainage facilities to control post-construction infiltration of water.

6.3.2 *Rock* fills shall be placed in lifts not exceeding 3 feet. Placement shall be by rock trucks traversing previously placed lifts and dumping at the edge of the currently placed lift. Spreading of the *rock* fill shall be by dozer to facilitate *seating* of the rock. The *rock* fill shall be watered heavily during placement. Watering shall consist of water trucks traversing in front of the current rock lift face and spraying water continuously during rock placement. Compaction equipment with compactive energy comparable to or greater than that of a 20-ton steel vibratory roller or other compaction equipment providing suitable energy to achieve the required compaction or deflection as recommended in Paragraph 6.3.3 shall be utilized. The number of passes to be made should be determined as described in Paragraph 6.3.3. Once a *rock* fill lift has been covered with *soil* fill, no additional *rock* fill lifts will be permitted over the *soil* fill.

6.3.3 Plate bearing tests, in accordance with ASTM D 1196, may be performed in both the compacted *soil* fill and in the *rock* fill to aid in determining the required minimum number of passes of the compaction equipment. If performed, a minimum of three plate bearing tests should be performed in the properly compacted *soil* fill (minimum relative compaction of 90 percent). Plate bearing tests shall then be performed on areas of *rock* fill having two passes, four passes and six passes of the compaction equipment, respectively. The number of passes required for the *rock* fill shall be determined by comparing the results of the plate bearing tests for the *soil* fill and the *rock* fill and by evaluating the deflection

variation with number of passes. The required number of passes of the compaction equipment will be performed as necessary until the plate bearing deflections are equal to or less than that determined for the properly compacted *soil* fill. In no case will the required number of passes be less than two.

6.3.4 A representative of the Consultant should be present during *rock* fill operations to observe that the minimum number of "passes" have been obtained, that water is being properly applied and that specified procedures are being followed. The actual number of plate bearing tests will be determined by the Consultant during grading.

6.3.5 Test pits shall be excavated by the Contractor so that the Consultant can state that, in their opinion, sufficient water is present and that voids between large rocks are properly filled with smaller rock material. In-place density testing will not be required in the *rock* fills.

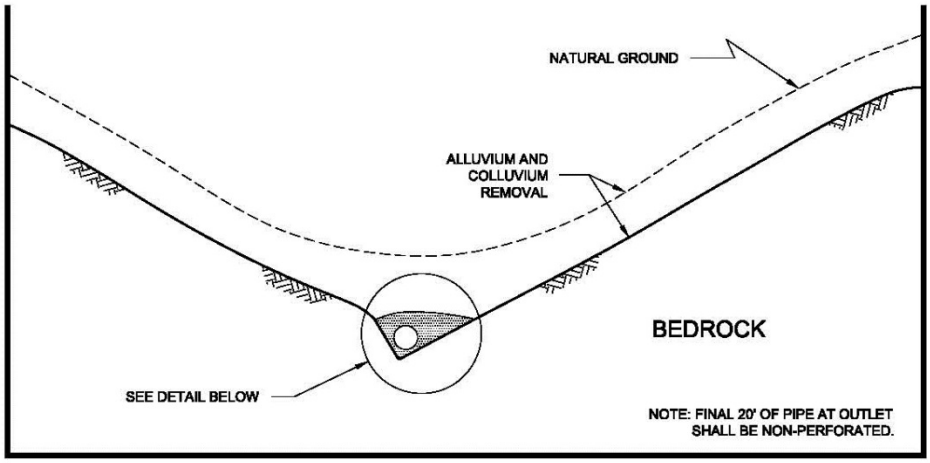
6.3.6 To reduce the potential for "piping" of fines into the *rock* fill from overlying *soil* fill material, a 2-foot layer of graded filter material shall be placed above the uppermost lift of *rock* fill. The need to place graded filter material below the *rock* should be determined by the Consultant prior to commencing grading. The gradation of the graded filter material will be determined at the time the *rock* fill is being excavated. Materials typical of the *rock* fill should be submitted to the Consultant in a timely manner, to allow design of the graded filter prior to the commencement of *rock* fill placement.

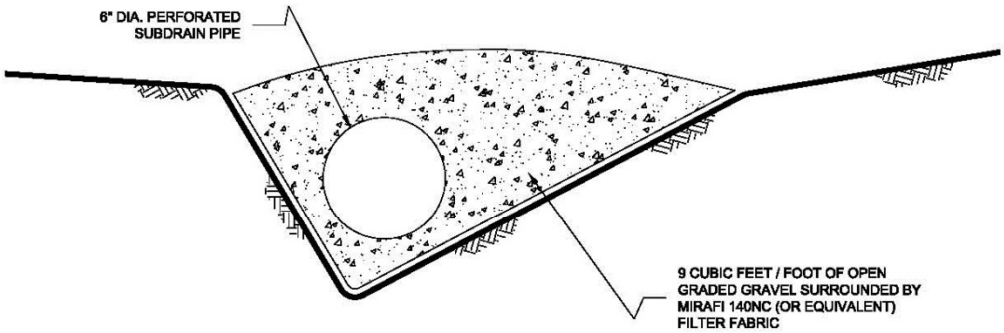
6.3.7 *Rock* fill placement should be continuously observed during placement by the Consultant.

7. SUBDRAINS

7.1 The geologic units on the site may have permeability characteristics and/or fracture systems that could be susceptible under certain conditions to seepage. The use of canyon subdrains may be necessary to mitigate the potential for adverse impacts associated with seepage conditions. Canyon subdrains with lengths in excess of 500 feet or extensions of existing offsite subdrains should use 8-inch-diameter pipes. Canyon subdrains less than 500 feet in length should use 6-inch-diameter pipes.

TYPICAL CANYON DRAIN DETAIL





NOTES:

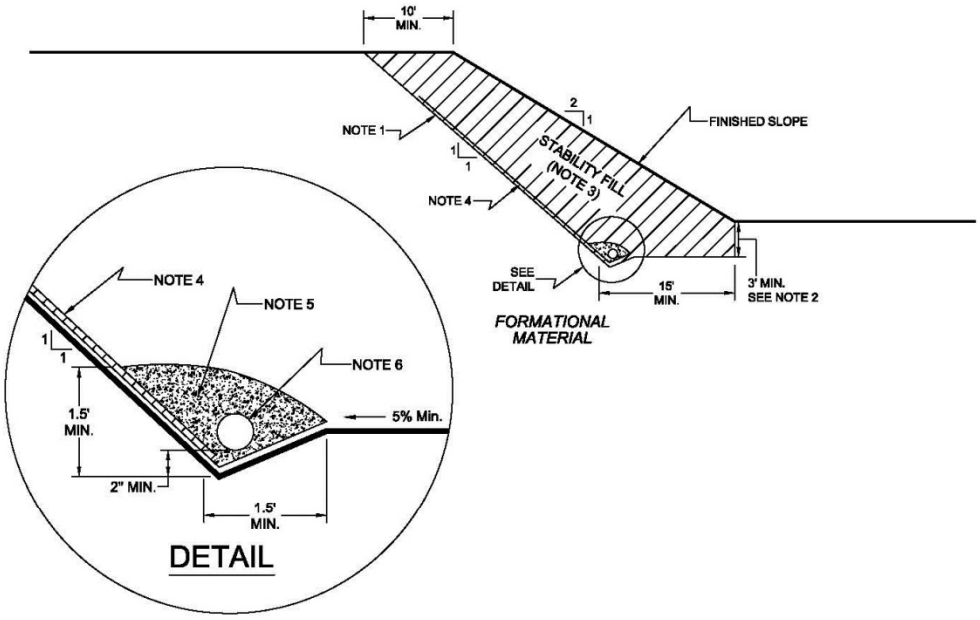
1.....6-INCH DIAMETER, SCHEDULE 80 PVC PERFORATED PIPE FOR FILLS
IN EXCESS OF 100-FEET IN DEPTH OR A PIPE LENGTH OF LONGER THAN 500 FEET.

2.....6-INCH DIAMETER, SCHEDULE 40 PVC PERFORATED PIPE FOR FILLS
LESS THAN 100-FEET IN DEPTH OR A PIPE LENGTH SHORTER THAN 500 FEET.

NO SCALE

7.2 Slope drains within stability fill keyways should use 4-inch-diameter (or lager) pipes.

TYPICAL STABILITY FILL DETAIL



NOTES:

1.....EXCAVATE BACKCUT AT 1:1 INCLINATION (UNLESS OTHERWISE NOTED).

2.....BASE OF STABILITY FILL TO BE 3 FEET INTO FORMATIONAL MATERIAL, SLOPING A MINIMUM 5% INTO SLOPE.

3.....STABILITY FILL TO BE COMPOSED OF PROPERLY COMPACTED GRANULAR SOIL.

4.....CHIMNEY DRAINS TO BE APPROVED PREFABRICATED CHIMNEY DRAIN PANELS (MIRADRAIN G200N OR EQUIVALENT) SPACED APPROXIMATELY 20 FEET CENTER TO CENTER AND 4 FEET WIDE. CLOSER SPACING MAY BE REQUIRED IF SEEPAGE IS ENCOUNTERED.

5.....FILTER MATERIAL TO BE 3/4-INCH, OPEN-GRADED CRUSHED ROCK ENCLOSED IN APPROVED FILTER FABRIC (MIRAFI 140NC).

6.....COLLECTOR PIPE TO BE 4-INCH MINIMUM DIAMETER, PERFORATED, THICK-WALLED PVC SCHEDULE 40 OR EQUIVALENT, AND SLOPED TO DRAIN AT 1 PERCENT MINIMUM TO APPROVED OUTLET.

NO SCALE

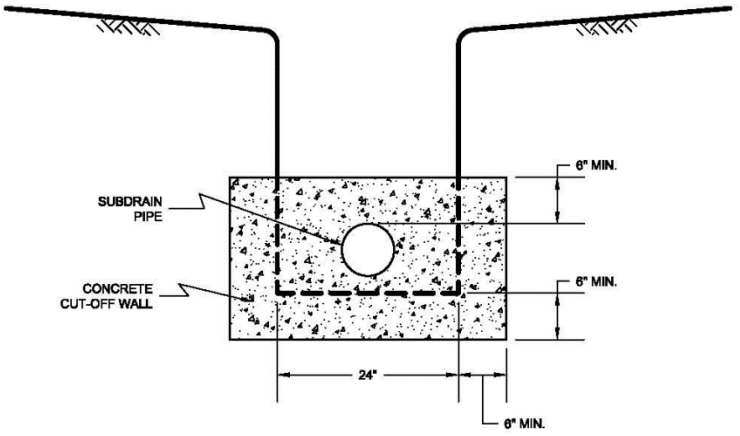
7.3 The actual subdrain locations will be evaluated in the field during the remedial grading operations. Additional drains may be necessary depending on the conditions observed and the requirements of the local regulatory agencies. Appropriate subdrain outlets should be evaluated prior to finalizing 40-scale grading plans.

7.4 *Rock* fill or *soil-rock* fill areas may require subdrains along their down-slope perimeters to mitigate the potential for buildup of water from construction or landscape irrigation. The subdrains should be at least 6-inch-diameter pipes encapsulated in gravel and filter fabric. *Rock* fill drains should be constructed using the same requirements as canyon subdrains.

7.5 Prior to outletting, the final 20-foot segment of a subdrain that will not be extended during future development should consist of non-perforated drainpipe. At the non-perforated/ perforated interface, a seepage cutoff wall should be constructed on the downslope side of the pipe.

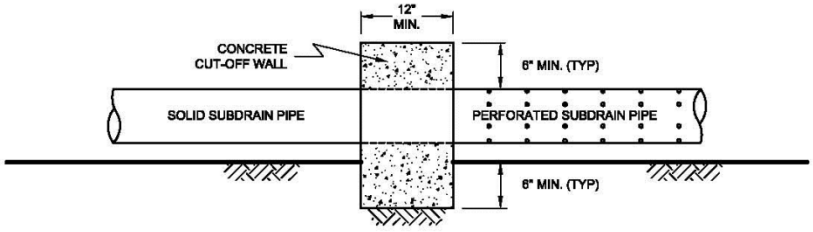
TYPICAL CUT OFF WALL DETAIL

FRONT VIEW



NO SCALE

SIDE VIEW

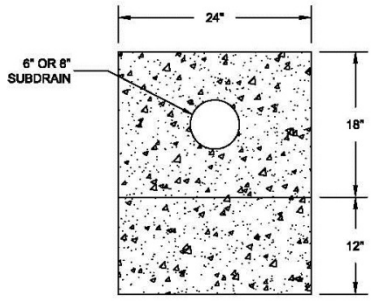


NO SCALE

7.6 Subdrains that discharge into a natural drainage course or open space area should be provided with a permanent headwall structure.

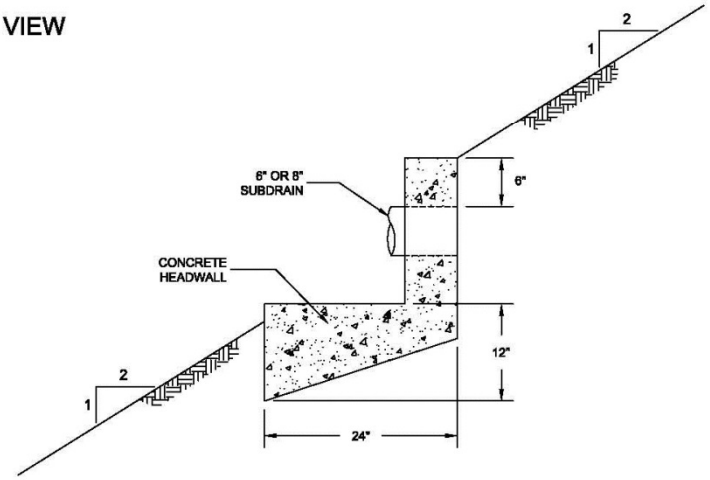
TYPICAL HEADWALL DETAIL

FRONT VIEW



NO SCALE

SIDE VIEW



NOTE: HEADWALL SHOULD OUTLET AT TOE OF FILL SLOPE
OR INTO CONTROLLED SURFACE DRAINAGE

NO SCALE

7.7 The final grading plans should show the location of the proposed subdrains. After completion of remedial excavations and subdrain installation, the project civil engineer should survey the drain locations and prepare an “as-built” map showing the drain locations. The final outlet and connection locations should be determined during grading operations. Subdrains that will be extended on adjacent projects after grading can be placed on formational material and a vertical riser should be placed at the end of the subdrain. The grading contractor should consider videoing the subdrains shortly after burial to check proper installation and functionality. The contractor is responsible for the performance of the drains.

8. OBSERVATION AND TESTING

8.1 The Consultant shall be the Owner's representative to observe and perform tests during clearing, grubbing, filling, and compaction operations. In general, no more than 2 feet in vertical elevation of *soil* or *soil-rock* fill should be placed without at least one field density test being performed within that interval. In addition, a minimum of one field density test should be performed for every 2,000 cubic yards of *soil* or *soil-rock* fill placed and compacted.

8.2 The Consultant should perform a sufficient distribution of field density tests of the compacted *soil* or *soil-rock* fill to provide a basis for expressing an opinion whether the fill material is compacted as specified. Density tests shall be performed in the compacted materials below any disturbed surface. When these tests indicate that the density of any layer of fill or portion thereof is below that specified, the particular layer or areas represented by the test shall be reworked until the specified density has been achieved.

8.3 During placement of *rock* fill, the Consultant should observe that the minimum number of passes have been obtained per the criteria discussed in Section 6.3.3. The Consultant should request the excavation of observation pits and may perform plate bearing tests on the placed *rock* fills. The observation pits will be excavated to provide a basis for expressing an opinion as to whether the *rock* fill is properly seated and sufficient moisture has been applied to the material. When observations indicate that a layer of *rock* fill or any portion thereof is below that specified, the affected layer or area shall be reworked until the *rock* fill has been adequately seated and sufficient moisture applied.

8.4 A settlement monitoring program designed by the Consultant may be conducted in areas of *rock* fill placement. The specific design of the monitoring program shall be as recommended in the Conclusions and Recommendations section of the project Geotechnical Report or in the final report of testing and observation services performed during grading.

8.5 We should observe the placement of subdrains, to check that the drainage devices have been placed and constructed in substantial conformance with project specifications.

8.6 Testing procedures shall conform to the following Standards as appropriate:

8.6.1 Soil and Soil-Rock Fills:

8.6.1.1 Field Density Test, ASTM D 1556, *Density of Soil In-Place By the Sand-Cone Method.*

8.6.1.2 Field Density Test, Nuclear Method, ASTM D 6938, *Density of Soil and Soil-Aggregate In-Place by Nuclear Methods (Shallow Depth).*

8.6.1.3 Laboratory Compaction Test, ASTM D 1557, *Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-Pound Hammer and 18-Inch Drop*.

8.6.1.4. Expansion Index Test, ASTM D 4829, *Expansion Index Test*.

9. PROTECTION OF WORK

9.1 During construction, the Contractor shall properly grade all excavated surfaces to provide positive drainage and prevent ponding of water. Drainage of surface water shall be controlled to avoid damage to adjoining properties or to finished work on the site. The Contractor shall take remedial measures to prevent erosion of freshly graded areas until such time as permanent drainage and erosion control features have been installed. Areas subjected to erosion or sedimentation shall be properly prepared in accordance with the Specifications prior to placing additional fill or structures.

9.2 After completion of grading as observed and tested by the Consultant, no further excavation or filling shall be conducted except in conjunction with the services of the Consultant.

10. CERTIFICATIONS AND FINAL REPORTS

10.1 Upon completion of the work, Contractor shall furnish Owner a certification by the Civil Engineer stating that the lots and/or building pads are graded to within 0.1 foot vertically of elevations shown on the grading plan and that all tops and toes of slopes are within 0.5 foot horizontally of the positions shown on the grading plans. After installation of a section of subdrain, the project Civil Engineer should survey its location and prepare an *as-built* plan of the subdrain location. The project Civil Engineer should verify the proper outlet for the subdrains and the Contractor should ensure that the drain system is free of obstructions.

10.2 The Owner is responsible for furnishing a final as-graded soil and geologic report satisfactory to the appropriate governing or accepting agencies. The as-graded report should be prepared and signed by a California licensed Civil Engineer experienced in geotechnical engineering and by a California Certified Engineering Geologist, indicating that the geotechnical aspects of the grading were performed in substantial conformance with the Specifications or approved changes to the Specifications.