National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project

DRAFT INITIAL STUDY /
MITIGATED NEGATIVE DECLARATION

March 2026

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project

Prepared for:

San Bernardino County
Public Works Department
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San Bernardino, California 92415-0835

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LIST OF ABBREVIATIONS

AB	Assembly Bill
ADL	Aerially Deposited Lead
ACMs	Asbestos Containing Materials
AQMP	Air Quality Management Plan
ARB	Air Resources Board
AASHTO	American Association of State Highway and Transportation Officials
AULs	Activity and Use Limitations
BLM	Bureau of Land Management
BMPs	Best Management Practices
BSA	Biological Study Area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CCA	Federal Clean Air Act
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFG	California Fish and Game
CFR	Code of Federal Regulation
CGP	Construction General Permit
CHRIS	California Historical Resources Information System
CH_4	Methane
Corps	U.S. Army Corps of Engineers
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COI	Change of Information
CSD	County Special District

CWA	Clean Water Act
dBA	Decibel A-weighted
DOC	California Department of Conservation
DSA	Disturbed Soil Area
DT	Desert Turtle
DTSC	California Department of Toxic Substances Control
ECSZ	Eastern California Shear Zone
EIR	Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
FCD	Flood Control District
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FHWA	Federal Highways Administration
FRA	Federal Responsibility Area
FTIP	Federal Transportation Improvement Program
GHG	Greenhouse gases
HFCs	Hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
ISA	Initial Site Assessment
Ldn	Day-Night Level
Leq	Equivalent Continuous Sound Level
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendent
MND	Mitigated Negative Declaration
MS4	Municipal Separate Storm Sewer Systems
msl	Mean sea level
MDAQMD	Mojave Desert Air Quality Management District
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Protection Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service

NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
N_2O	Nitrous oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
NOA	Naturally Occurring Asbestos
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NTH	National Trails Highway
O_3	Ozone
OHP	Office of Historic Preservation
OPR	Office of Planning and Research
PAL	Project Area Limits
PM	Particulate Matter
ppm	Parts per Million
PRC	Public Resources Code
Project	National Trails Highway over Bridge 85 (Lamego Ditch) Replacement Project
PS&E	Plans, Specifications, and Estimates
QSD	Qualified Stormwater Pollution Prevention Plan Developer
QSP	Qualified Stormwater Pollution Prevention Plan Practitioner
RE	Renewable energy
RECs	Recognized Environmental Conditions
ROG	Reactive organic compounds
ROW	Right of Way
RSP	Rock Slope Protection
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SBCFPD	San Bernardino County Fire Protection District
SBCTA	San Bernardino County Transportation Authority
SBCFPD	San Bernardino County Fire Protection District
SCCIC	South Central Coastal Information Center
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SLF	Sacred Lands File
SMARTS	Stormwater Multiple Application and Report Tracking System
SMARA	Surface Mining and Reclamation Act

SO_2	Sulfur Dioxide
SR	State Route
SRA	State Responsibility Area
SSC	Species of Special Concern
STIP	State Transportation Improvement Plan
STP	Surface Transportation Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TCE	Temporary Construction Easement
TCRs	Tribal Cultural Resources
TMDLs	Total Maximum Daily Loads
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VMT	Vehicle miles traveled
VOC	Volatile organic compounds
WDID	Waste discharge Identification

1.0 INTRODUCTION

1.1 Purpose and Background of the Initial Study

This document is an Initial Study (IS) with supporting environmental studies, which provides justification for a Mitigated Negative Declaration (MND) pursuant to the California Environmental Quality Act (CEQA) for the National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project (Project).

The purpose of this IS/MND is to evaluate the potential environmental impacts of the proposed Project. Mitigation measures have also been established that reduce or eliminate any identified significant and/or potentially significant impacts.

The IS/MND is a public document to be used by the San Bernardino County (County), acting as the CEQA lead agency, to determine whether the proposed Project may have a significant effect on the environment, pursuant to CEQA. If the lead agency finds substantial evidence that any aspect of the proposed Project, either individually or cumulatively, may have a significant effect on the environment that cannot be mitigated to a less than significant level, regardless of whether the overall effect of the proposed Project is adverse or beneficial, the lead agency is required to prepare an Environmental Impact Report (EIR), use a previously prepared EIR and supplement that EIR, or prepare a subsequent EIR to analyze the Project at hand (Public Resources Code Sections 21080(d), 21082.2(d)).

If the agency finds no substantial evidence that the proposed Project or any of its aspects may cause a significant impact on the environment with mitigation, a MND shall be prepared with a written statement describing the reasons why the proposed Project, which is not exempt from CEQA, would not have a significant effect on the environment, and therefore, why it does not require the preparation of an EIR (State CEQA Guidelines Section 15371).

According to State CEQA Guidelines Section 15070, a Negative Declaration shall be prepared for a project subject to CEQA when either:

1) *The initial study shows there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or*

2) *The initial study identifies potentially significant effects, but:*

    a) *Revisions in the project plans or proposals made by, or agreed to by the applicant before the proposed MND and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and*

    b) *There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.*

This IS/MND has been prepared in accordance with CEQA, Public Resources Code Section 21000 et seq., and the State CEQA Guidelines Title 14 California Code of Regulations (CCR) Section 15000 et seq.

1.2 Lead Agency

The lead agency is the public agency with primary responsibility over a proposed project. Where two or more public agencies will be involved with a project, CEQA Guidelines Section 15051

provides criteria for identifying the lead agency. In accordance with CEQA Guidelines Section 15051(b)(1), “The lead agency will normally be the agency with general governmental powers.”

The County has initiated preliminary design of the proposed Project and it requires approval from the San Bernardino County Board of Supervisors. Therefore, based on the criteria described above, the lead agency for the proposed Project is the County.

1.3 Technical Studies

Technical studies prepared for the proposed Project and referenced in this IS/MND are listed below. The technical studies are available at the San Bernardino Public Works Department Environmental Management Division upon request. Please reach out to Ayida Smith at ayida.smith@dpw.sbcounty.gov or (909) 387-7910 to request a copy.

- Aquatic Resources Delineation Report, National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project, San Bernardino County, California, Dokken Engineering (December 2025)
- Biological Resources Technical Report, National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project, San Bernardino County, California, Dokken Engineering (December 2025)
- Combined Paleontological Identification and Evaluation Report for the National Trails Highway Lamego Bridge Project, San Bernardino County, Cogstone Resource Management (December 2025)
- Cultural Resources Technical Report, National Trails Highway at Bridge 85 Replacement Project, Dokken Engineering (December 2025) - Please note that due to the inclusion of sensitive and confidential information, the cultural report is not available to the general public
- Hazardous Waste Initial Site Assessment Memorandum, San Bernardino County, California, Dokken Engineering (October 2025)

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2.0 PROJECT DESCRIPTION

2.1 Project Location

The County proposes to replace the existing two-lane timber bridge on the National Trails Highway/National Old Trails Road/Route 66 (hereinafter referred to as NTH) at County bridge 85 over Lamego Ditch with a new two-lane concrete structure located near the unincorporated community of Chambless in San Bernardino County, California (**Figure 1. Project Vicinity and Figure 2. Project Location**). The proposed project is located approximately 4.3 miles east of Kelbaker Road.

2.2 Project Purpose and Objectives

The purpose of the proposed Project is to improve structure safety and operations through replacement of the existing bridge and approach roadways. The proposed Project is needed to meet current bridge structural design and safety standards.

2.3 Project Description

The existing timber bridge was constructed in the 1930s and spans the man-made Lamego Ditch, which was created to convey flash-flood flows beneath the NTH. The timber trestle bridge is composed of simply supported timber stringer spans with a laminated timber deck supported on timber strutted abutments and bents consisting of timber piles. The bridge is approximately 40 feet long and 28 feet wide with guardrails that do not meet current standards.

Through the years, the bridge has been modified by various maintenance and repair work to maintain public safety and extend the service life of the bridge. The proposed replacement will resolve existing bridge deficiencies. The existing two-lane bridge will be replaced with a concrete bridge designed to American Association of State Highway and Transportation (AASHTO) standards for two-lane concrete bridges, guardrails, guardrail end treatments, and approaches. The existing soil is sandy and susceptible to scour, so pile extensions would be utilized, and the abutment foundation would be designed for scour. Additionally, rock slope protection will also be utilized to prevent scour. The bridge barrier would be a Type 85 concrete barrier with bicycle railing painted white, which is approved by the Manual for Assessing Safety Hardware and best matches the original railing. The bridge may be lengthened as needed to convey the storm flows. The replacement bridge would accommodate two 12-foot-wide lanes, two 3-foot-wide shoulders, and two 2-foot-wide railings. The vertical profile of the bridge will remain close to the existing profile, unless it is determined that additional vertical clearance is required to provide sufficient water conveyance beneath the bridge. It is anticipated that any necessary changes in vertical profiles would be three feet or less, with the elevation gradually conforming to the existing roadway elevations.

The NTH is posted at a speed limit of 55 miles per hour. The alignment would remain unchanged; however, up to 800 feet of pavement improvements on either side of the bridge may be needed to conform to the existing roadway vertical profile. Grading within the existing channel around the bridge may be needed to ensure sufficient storm conveyance and drainage of the area.

A temporary, parallel road (also known as a “shoo-fly”) would be constructed at the bridge location to accommodate through-traffic during construction (**Figure 3. Project Features**). This parallel road may require placement of a culvert with rock slope protection. . Based on weather conditions and construction activities, it is possible that there could be intermittent closures of the temporary parallel road. The temporary parallel road, including any culvert or rock slope protection, would be removed once construction of the replacement bridge and roadway approaches is complete. Construction of the replacement bridge would be completed within one year.

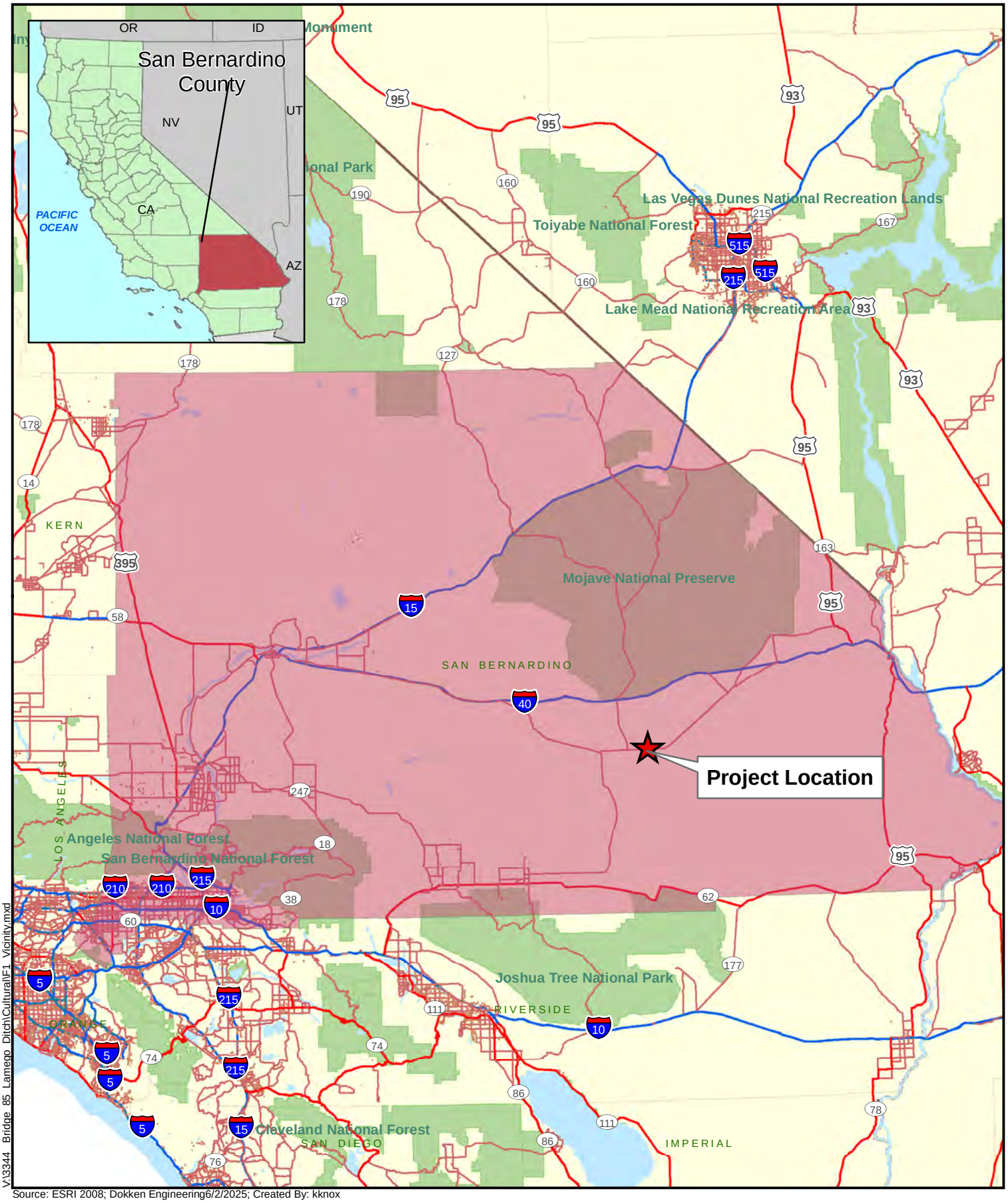


Figure 1
Project Vicinity

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

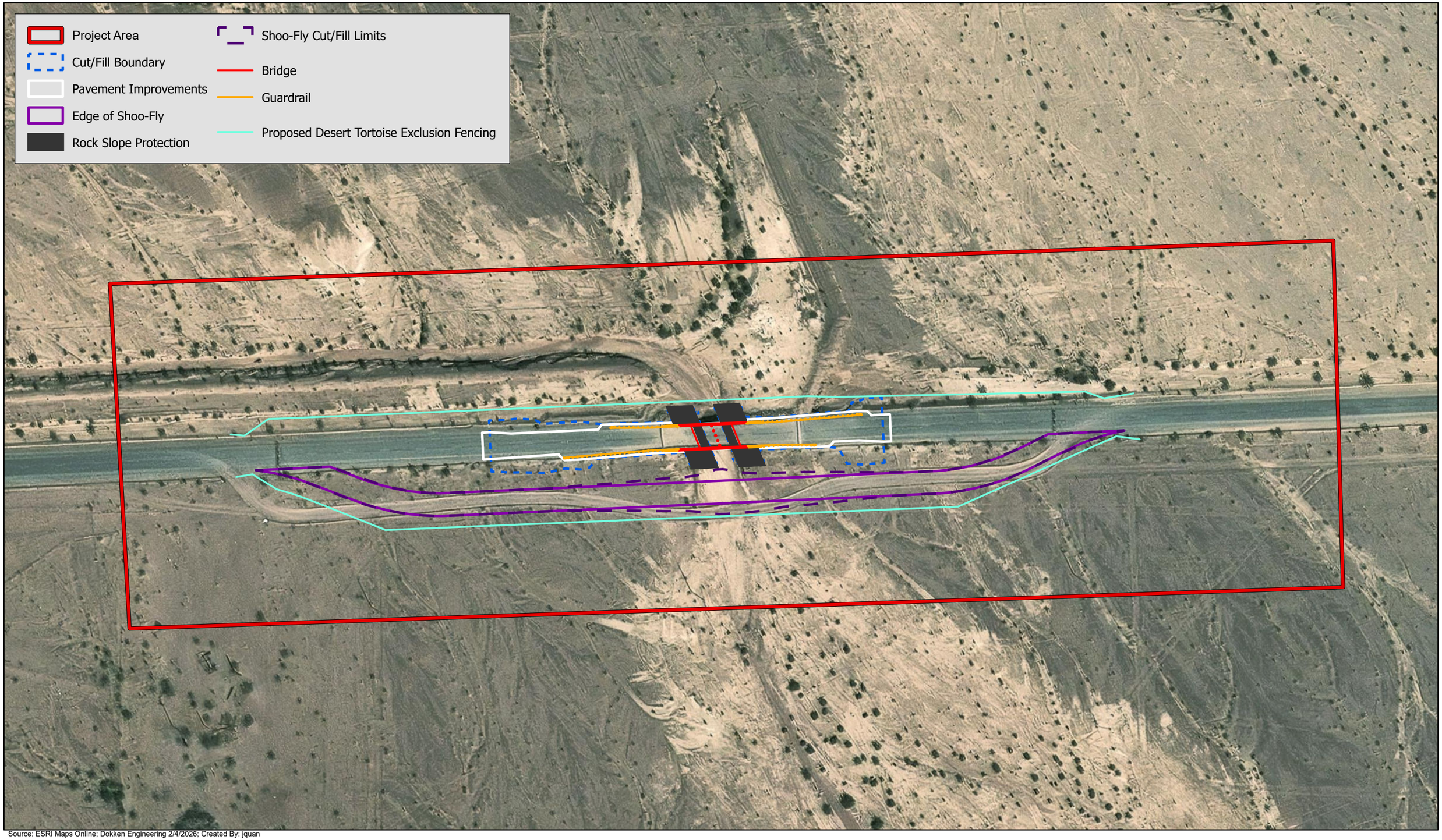
v:\1836_11thStBridge\Cultural\F2_Loc_10-12-10.mxd

Source: ESRI World Street Maps Online; Dokken Engineering 5/8/2025; Created By: amyd

0 1 2 3 4 Miles

Figure 2
Project Location

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project San Bernardino County, California



Source: ESRI Maps Online; Dokken Engineering 2/4/2026; Created By: jquan

0 200 400 Feet

Figure 3
Project Features

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

Permanent acquisition of right-of-way is not anticipated; however, temporary construction easements will be needed to accommodate construction of the temporary detour and bridge replacement. There are existing utilities that may require relocation as part of this project. Existing utilities may include an underground fiber optics line, overhead electrical line, telecommunications lines, water lines, and gas lines. All utility relocations would be included within the defined limits of the Project area.

The equipment needed for roadway construction is expected to include heavy construction earthmoving equipment, dump trucks, and pavers. The equipment needed for bridge construction is expected to include cranes, pile drivers, drill rigs, excavators, concrete trucks, and concrete pumps. This Project is funded with local funds. The County is the lead agency responsible for completing CEQA compliance.

2.4 Required Project Approvals

To implement the Project, a series of actions and approvals would be required from regulatory and other government agencies. Anticipated Project approvals would include, but are not limited to the following:

Table 1. Required Project Approvals

Agency	Permit/Approval	Status
San Bernardino County Board of Supervisors	Adoption of MND and Mitigation Monitoring and Reporting Plan	Anticipated 2026
Lahontan Regional Water Quality Control Board	Waste Discharge Requirements	Will be obtained after approval of the final environmental document and prior to construction.
SWRCB	Construction General Permit	Will be Obtained Prior to Construction
California Department of Fish and Wildlife (CDFW)	Section 1602 Streambed Alteration Agreement	Will be obtained after approval of the final environmental document and prior to construction.

3.0 INITIAL STUDY CHECKLIST

A. BACKGROUND

1. Project Title:

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project

2. Lead Agency Name and Address:

San Bernardino County
Public Works Department
825 East Third Street,
San Bernardino, California 92415-0835

3. Contact Person Phone Number:

Ayida Smith
Planner III – Capital Improvement Section
Department of Public Works
Environmental Management Division
825 E. Third Street, Rm. 123
San Bernardino, CA 92415-0835
(909) 387-7910
Ayida.smith@dpw.sbcounty.gov

4. Project Location:

The proposed Project is located approximately 4.3 miles east of Kelbaker Road near the unincorporated community of Chambless in San Bernardino County, California. The Project area is approximately 16.98 acres and includes segments of the NTH, the existing two-lane 40 foot long 28 foot wide simple-supported stringer timber bridge, the Lamego Ditch, and approximately 800 feet of approach roadway (Figures 1-3).

5. Project Applicant's Name and Address:

San Bernardino County
Public Works Department
825 East Third Street,
San Bernardino, California 92415-0835

6. General Plan Designation:

Open Space (OS)

7. Zoning:

Resource Conservation (RC)

8. Description of Project:

The existing timber bridge was constructed in the 1930s and spans the man-made Lamego Ditch, which was created to convey flash-flood flows beneath the NTH.

The timber trestle bridge is composed of simply supported timber stringer spans with a laminated timber deck supported on timber strutted abutments and bents consisting of timber piles. The bridge is approximately 28 feet wide with guardrails that do not meet current standards.

Through the years, the bridge has been modified by various maintenance and repair work to maintain public safety and extend the service life of the bridge. The proposed replacement will resolve existing bridge deficiencies. The existing two-lane bridge will be replaced with a concrete bridge designed to AASHTO standards for two-lane concrete bridges, guardrails, guardrail end treatments, and approaches. The existing soil is sandy and susceptible to scour, so pile extensions would be utilized at the piers, and the abutment foundation would be designed for scour. Additionally, rock slope protection will also be utilized to prevent scour. The bridge barrier would be a Type 85 concrete barrier with bicycle railing painted white, which is approved by the Manual for Assessing Safety Hardware and best matches the original railing. The bridge may be lengthened as needed to convey the storm flows. The replacement bridge would accommodate two 12-foot-wide lanes, two 3-foot-wide shoulders, and two 2-foot-wide railings. The vertical profile of the bridge will remain close to the existing profile, unless it is determined that additional vertical clearance is required to provide sufficient water conveyance beneath the bridge. It is anticipated that any necessary changes in vertical profiles would be three feet or less, with the elevation gradually conforming to the existing roadway elevations.

The NTH is posted at a speed limit of 55 miles per hour. The alignment would remain unchanged; however, up to 800 feet of pavement improvements on either side of the bridge may be needed to conform to the existing roadway vertical profile. Grading within the existing channel around the bridge may be needed to ensure sufficient storm conveyance and drainage of the area.

A temporary, parallel road (also known as a “shoo-fly”) would be constructed at the bridge location to accommodate through-traffic during construction (**Figure 3. Project Features**). This parallel road may require placement of a culvert with rock slope protection. Based on weather conditions and construction activities, it is possible that there could be intermittent closures of the temporary parallel road. Construction of the replacement bridge would be completed within one year.

9. Surrounding Land Uses and Setting:

The current land use within the Project area is Open Space (OS). The current zoning designation within the Project area is Resource Conservation (RC). This zoning provides sites for open space and recreational activities, single family homes on very large parcels, and similar/compatible uses. The width of the Project area is limited to the County right-of-way (ROW), a 400-foot-wide roadway on land that has a roadway maintenance easement held by the County within privately owned parcels. While there are rocky mountainous ranges just north of the Project area, the topography itself is relatively flat, gently sloping to the southeast. The land use in the surrounding area is also zoned for Resource Conservation and land use classified as Open Space.

B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below could result in potentially significant impacts if mitigation measures are not implemented. As discussed on the following pages, where potentially significant impacts are identified, feasible mitigation was identified to reduce the impacts to a less than significant level. Therefore, potentially significant impacts that are mitigated to "Less Than Significant" are shown here.

☒ Aesthetics	☐ Agriculture and Forestry	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology/Soils	☐ Greenhouse Gas Emissions	☒ Hazards and 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

C. DETERMINATION

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.

Ayida Smith
Planner III – Capital Improvement Section
Department of Public Works
Environmental Management Division
San Bernardino County

Date

D. EVALUATION OF ENVIRONMENTAL IMPACTS

Each of the responses in the following environmental checklist considers the whole action involved, including project-level, cumulative, on-site, off-site, indirect, construction, and operational impacts. A brief explanation is provided for all answers and supported by the information sources cited.

1. 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).

2. A “Less Than Significant Impact” applies when the proposed project would not result in a substantial and adverse change in the environment. This impact level does not require mitigation measures.

3. A “Less Than Significant Impact With Mitigation Incorporated” applies when the proposed project would not result in a substantial and adverse change in the environment after additional mitigation measures are applied.

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

I. AESTHETICS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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) 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 a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

REGULATORY SETTING

State

CEQA establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of aesthetic, natural, scenic and historic environmental qualities (CA Public Resources Code Section 21001[b])."

The Aesthetics section of the Final EIR for the County Policy Plan (2020) describes the County as possessing a variety of unique and important visual resources, including numerous expansive vistas of forests, hillsides, mountains, and desert landscapes." The community adjacent to the Project area contains "vast stretches of undeveloped desert landscapes that, due to the general lack of development, trees, and other visual obstructions, feature countless panoramic long-range views."

The entire stretch of the NTH on which the existing bridge is located has been designated a National Scenic Byway by the United States Department of Transportation (USDOT 2025).

DISCUSSION OF IMPACTS

a) Have a substantial adverse effect on a scenic vista?; and
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 a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant. The entire stretch of the NTH, which includes the segment within the Project area, has been designated a National Scenic Byway by the United States Department of Transportation. The existing raised roadbed of the NTH allows for views of the surrounding desert landscape. Therefore, the existing visual character of the site consists of a scenic vista.

The new bridge length would be lengthened as needed to convey storm flows. The width of the replacement bridge would be increased from the existing 27-28 feet to 34 feet to accommodate two 11-foot lanes, two 4-foot shoulders and the two 2-foot railings. The vertical profile of the bridge will require additional vertical clearance to provide sufficient water conveyance. It is anticipated the changes in vertical profiles would be three feet or less, with the elevation gradually conforming to the existing roadway elevations. The alignment would remain unchanged; however, approach road work, up to 800 feet, on either side of the bridge may be needed to conform to the existing roadway vertical profile.

The widening and slight vertical profile increase would not substantially degrade or block valued desert landscape views for motorists or nearby residents. The proposed Project would not diminish the views that make the highway eligible for scenic status. Therefore, the Project as designed would not substantially degrade the visual character and quality of the site and would have less than significant impacts to scenic vistas and visual character.

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

Less than Significant with Mitigation. As discussed, scenic resources associated with the proposed Project include the NTH itself. Defining visual aspect features of the NTH include the elevated roadway alignment, the proposed bridge replacement, late 1950s paddleboards, C-markers, ditch/dike systems, and an open desert landscape. Each of these components is viewed by motorists and discussed below.

While the existing bridge is timber, the deck of the bridge is asphalt. As such, no component of the timber bridge is visible to motorists, with the exception of the timber wingwalls which are briefly visible as motorists travel across the bridge. The demolition of the existing timber bridge will also result in the removal of the timber wingwalls; however, due to the rate of travelling speed (approximately 55 mph), the concrete replacement wingwalls will only be briefly visible to motorists and does not constitute a significant change.

While the bridge railings would also be replaced, the replacement railing would be a Type 85 concrete barrier with bicycle railing painted white which is Manual for Assessing Safety Hardware (MASH) approved, and which best matches the aesthetic of both the original

and modern bridge railings. This will minimize the change in viewshed for motorists and does not constitute a significant change.

One Late 1950s Paddleboard is present within the Project area at Lamego Ditch. If left in place, the paddleboard would be damaged or destroyed during construction, which would degrade the NTH viewshed for motorists. To prevent this impact, the Late 1950s Paddleboard will be removed prior to construction, refurbished to better match its original coloration, and reinstalled following construction, through implementation of **CUL-4** (discussed in greater detail in the Cultural Resources section). This will provide a visual benefit to motorists along the NTH.

Three C-Markers, or concrete right-of-way markers, are present within the Project area. Due to their small size and non-distinctive coloration, these markers are not very visible to motorists due to the rate of travelling speed (approximately 55 mph). If left in place, the C-Markers would be damaged or destroyed during construction, which would degrade the NTH viewshed for motorists. Implementation of **CUL-3** (discussed in greater detail in the Cultural Resources section) requires that each C-Marker be removed prior to construction, stored in protective materials during construction, and reinstalled following completion of construction, safeguarding their preservation. Therefore, there would be no permanent impact or alteration to the C-Markers.

The overall alignment of the NTH would remain the same as no alterations would occur to the alignment. The width of the bridge and the corresponding roadway approaches would be wider to meet current safety standards, but due to the high rate of travelling speed by motorists (approximately 55 mph) and, as this change would be restricted to the bridge area, this slight change in existing width would be minimal. Similarly, while the ditch/dike system present at the bridge will be slightly widened/lengthen to account for replacement bridge dimensions, this water control system is ever changing in dimensions as it has been subject to continual modification and alteration since its inception. An additional, minimal modification would not constitute a significant change to motorists.

Finally, the open desert landscape which surrounds the NTH will not be obscured from view or otherwise impacted by the Project. Motorists will still have the open desert landscape as a backdrop while utilizing the NTH.

While various components of the NTH will be replaced, the overall NTH feel, which includes the raised NTH roadway, presence of the bridge, Late 1950s Paddleboard, C-Markers, ditch/dike system, and the open desert landscape will remain the same from the viewpoint of motorists and nearby residents. While the timber components of the original bridge will be removed, the only view of timber components that motorists currently see are the wingwalls, which are only briefly visible as they pass across each bridge. The replacement concrete wingwalls will also only be briefly visible as motorists pass over the bridge, due to their travelling speed (approximately 55 mph). As the elevated and straight NTH alignment would remain, the C-Markers will be preserved, the Late 1950s Paddleboard will be preserved/rehabilitated, the replacement railings will better match both the original and existing railings, the ditches/dikes would be minimally improved to match the lengthened bridge, and as the open desert landscape would remain unobscured, visual impacts to the overall NTH would be minimal through implementation of **CUL-3 and CUL-4** (discussed in greater detail in the Cultural Resources section); therefore, there would be no significant impact with mitigation incorporated.

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

Less than Significant. Temporary visual impacts could result from detour signage, equipment storage, and potential night-time construction that would require additional lighting. These construction activities may temporarily obscure views. Construction of the proposed improvements is expected to start in 2027 and last approximately four months. Motorists would be exposed to temporary signage and lighting very briefly as they travel through the low-water crossing shoo-fly detour.

However, upon completion of construction, the proposed Project would not include new lighting elements in an area in which there is currently no lighting. Therefore, impacts would be less than significant.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

CUL-3: C-Marker Treatment:

The Cultural Resource Specialist will review the Project's Plans, Specifications, and Estimates (PS&E) and Mitigation Monitoring Report Program/Environmental Commitment Record to ensure that the protective measures below are included in the Project's Plans and Contract Special Provisions as necessary to ensure their enforcement.

The Cultural Resource Specialist will attend the pre-construction meeting for the project to provide a sensitivity training and to inform the Project Contractor of the nature of the historical resources in the PAL and their protective measures.

The Cultural Resource Specialist will conduct a pre-construction field visit to photo-document the existing conditions of the work area prior to the initial construction activity for the Project. The Cultural Resource Specialist will photograph each C-Marker and will document its existing conditions.

Prior to earthmoving work or demolition, the Contractor with oversight from the Cultural Resource Specialist, will remove each C-Marker (via hand tools and/or mechanically levered with straps). The C-Markers will be given a temporary identification tag with its bridge number/name location and GPS reading, wrapped in protective materials (such as blankets, bubble wrap, or other materials to be determined by the County, Cultural Resource Specialist, and Contractor), stored in a safe and secure area away from weather and elements.

After construction activities are completed at the C-Marker's specific bridge location, the Contractor will reinstall the C-Marker per the Project's plans in the same location, utilizing hand tools and/or mechanical tools. Each C-Marker will be installed within one foot of the monument above ground level. The Cultural Resource Specialist will review the reinstallation either in person or via photographs to ensure correct placement. Photo-documentation will be prepared to be included in a monitoring report.

The Cultural Resource Specialist will prepare a monitoring report documenting compliance with the above steps.

CUL-4: Late 1950s Paddleboard Treatment:

The Cultural Resource Specialist will review the Project's Plans, Specifications, and Estimates (PS&E) and Environmental Commitment Record to ensure that the protective /rehabilitation measures below are included in the Project's Plans and Contract Special Provisions as necessary to ensure their enforcement.

The Cultural Resource Specialist will attend the pre-construction meeting for the project to provide a sensitivity training and to inform the Project Contractor of the nature of the historical resources in the PAL and their protective measures.

The Cultural Resource Specialist will conduct a pre-construction field visit to photo-document the existing conditions of the work area prior to the initial construction activity for the Project. The Cultural Resource Specialist will photograph the late 1950s Paddleboard (and its metal post) and will document its existing conditions.

Prior to earthmoving work or demolition, the Contractor with oversight from the Cultural Resource Specialist, will remove the late 1950s Paddleboard (via hand tools only). The paddleboard will be given a temporary identification tag with its bridge number/name location and GPS reading, wrapped in protective materials (such as blankets, bubble wrap, or other materials to be determined by the County, Cultural Resource Specialist, and Contractor), stored in a safe and secure area away from weather and elements until it is provided to a paint shop for repainting.

The Contractor, in consultation with the Cultural Resource Specialist, will send the Paddleboard in its protective materials to a paint shop that has been determined to have sufficient experience dealing with historic materials to repaint the Paddleboard. The Cultural Resource Specialist will also provide paint specifications, determined during the County's 10 Bridges Project mitigation implementation, in order to match the original paint in color, design, and information.

The Cultural Resource Specialist will ensure constancy of the paddleboard repainting with the previous projects.

Once repainted, and after construction activities are completed at the Paddleboard's specific bridge location, the Contractor will reinstall the Paddleboard per the Project's plans, utilizing hand tools only.

The Cultural Resource Specialist will review the reinstallation either in person or via photographs to ensure correct placement. Photo-documentation will be prepared to be included in a monitoring report.

The Cultural Resource Specialist will prepare a monitoring report documenting compliance with the above steps.

II. AGRICULTURE AND FOREST RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

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 (DOC 2025a, 2025b) 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 (CAL FIRE 2025) 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.

REGULATORY SETTING

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 in response to the critical need for assessing the location, quality, and quantity of agricultural lands and conversion of these lands over time. Important Farmland Maps are prepared by the FMMP pursuant to Section 65570 of the California Government Code. To create maps, FMMP combines current land use information with U.S. Department of Agriculture – Natural Resources Conversion

Service (NRCS) soil survey data. According to the 2020 Important Farmland Series for San Bernardino County, the Project area is not mapped as it falls outside of the NRCS soil survey (DOC 2025b).

California Land Conservation Act of 1965

The California Land Conservation Act of 1965 – commonly referred to as the Williamson Act – enables local governments to enter contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use (DOC 2025a). The program is voluntary, locally administered and offers preferential property taxes on lands which have enforceable restrictions on their use via the contracts between individual landowners and local governments.

DISCUSSION OF IMPACTS

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?

No Impact. As described above, the Project area falls outside of the NRCS soil survey and is not mapped by the FMMP as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). Implementation of the proposed Project would not result in the conversion of any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. Therefore, no impact to farmland resources would occur.

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

No Impact. The Project area is zoned for Resource Conservation (RC) and land use is categorized as Open Space (OS). As described above, the Project area falls outside of the NRCS soil survey and is not mapped by the FMMP. The proposed Project would not conflict with the existing zoning for agricultural use or Williamson Act contract lands; therefore, no impact would occur.

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

No Impact. There is no forestland, timberland, or timberland zoned for Timberland Production within the Project vicinity or Project area. The Project would not conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production; therefore, no impact would occur.

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

No Impact. There is no forestland or forest resources located within the Project vicinity or Project area. The Project would not result in the loss of forest land or conversion of forest land to non-forest use; therefore, no impact would occur.

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?

No Impact. The proposed Project includes the demolition of the existing two-lane simple-supported timber bridge and its replacement with a concrete slab structure. The proposed Project would not result in the conversion of farmland to non-agricultural use, or conversion of forestland to non-forest use; therefore, no impact would occur.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

None.

III. AIR QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐

REGULATORY SETTING

Federal and State

Clean Air Act

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws and related regulations by the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (Pb), and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

California Environmental Quality Act

CEQA is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. CEQA documents address CCAA requirements for transportation projects. While state standards are often more strict than federal standards, the state has no conformity process.

Local

The U.S. EPA has delegated responsibility to air districts to establish local rules to protect air quality. Caltrans' Standard Specification 14-9.02 requires compliance with all applicable air quality laws and regulations including local and air district ordinances and rules.

Mojave Desert Air Quality Management District (MDAQMD)
The MDAQMD is the agency responsible for preparing the Air Quality Management Plan (AQMP) for the San Bernardino and Riverside County portions of the Mojave Desert Air Basin (MDAB). MDAQMPD has adopted the following attainment plans for nonattainment pollutants that are applicable in the Project area:

Ozone Attainment Plans

- 2008 Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)
- 2004 Ozone Attainment Plan (State and Federal)
- 1996 Triennial Revision to the 1991 Air Quality Attainment Plan
- 1994 Reasonable Further Progress Rate-of-Progress Plan
- Post-1996 Attainment Demonstration and Reasonable Further Progress Plan
- 1991 Air Quality Attainment Plan

Particulate Matter Attainment Plans

- 1995 Mojave Desert Planning Area Federal Particulate Matter Attainment Plan
- 1995 Searles Valley PM10 Plan, San Bernardino County Portion of Searles Valley Planning Area

MDAQMD Rules and Regulations
All projects in the MDAB are subject to MDAQMD rules and regulations in effect at the time of activity, including:

- **Rule 201, Permit to Construct, and Rule 204, Permit to Operate**. This requires that new or replacement equipment (stationary sources) that generate air pollutant emissions obtain a permit from the MDAQMD prior to their installation (Rule 201) and operation (Rule 203).
- **Rule 401, Visible Emissions**. This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in viable emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere by a person from any single source of emission for a period or periods aggregating more than three minutes in any one hour that is dark or darker than designated No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.
- **Rule 402, Nuisance**. This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance. Specifically, this rule prohibits

any person from discharging quantities of air contaminants or other material from any source such that it would result in an injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health, or safety of any number of persons or the public, or that cause, or have a natural tendency to cause, injury, or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

- **Rule 403, Fugitive Dust, Rule 403.1, Fugitive Dust Control for the Searles Valley Planning Area, and Rule 403.2, Fugitive Dust Control for the Mojave Desert Area Planning Area**. This rule is intended to reduce the amount of particulate matter entrained in the ambient air because of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities. Rules 403.1 and 403.2 require implementation of additional control measures outlined in the Searles Valley PM10 State Implementation Plan and the Mojave Desert Planning Area Federal PM10 Attainment Plan, respectively, to ensure that construction contractors implement additional soil stabilization techniques to minimize impacts from windblown dust (blowsand) during construction. These rules apply to construction/demolition activity, heavily traveled publicly maintained unpaved roads, weed suppression activity, limestone processing in the Lucerne Valley Area, and activities on Bureau of Land Management Land.

- **Regulation XIII, New Source Review (NSR)**. This rule sets forth the requirements for the preconstruction review of all new or modified facilities (stationary and area sources) to ensure that (1) new sources do not interfere with the attainment and maintenance of the AAQS, (2) that is no net increase in the emissions of any nonattainment air pollutant from new or modified major facilities which emit or have the potential to emit any nonattainment air pollutant in an amount greater than or equal to the in MDAQMD Rule 1303(B)(1), (3) the construction or modification of facilities subject to NSR comply with the preconstruction review requirements for Toxic Air Contaminants (TACs) set forth in MDAQMD Rule 1320; and (4) the construction or modification of facilities subject to this Regulation or District Regulation XVI: Prevention of Significant Deterioration comply with the preconstruction review requirements set forth in MDAQMD Rule 1600.

DISCUSSION

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

The proposed Project is located in the Mojave Desert Air Basin and is within the jurisdiction of the MDAQMD and the California Air Resources Board (CARB). The MDAQMD is the primary agency responsible for writing the AQMP in cooperation with SCAG, local governments, and the private sector. The AQMP provides the blueprint for meeting state and federal ambient air quality standards. This Project is not a capacity-increasing

transportation project. It will have no impact on traffic volumes and therefore would not generate any long-term operational emissions. The proposed Project is also included in SCAG's most recent RTP and RTIP both of which were found to be conforming. **There would be no impact for a) and b).**

Temporary Construction Emissions

During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated and would include CO, nitrogen oxides (NO_X), volatile organic compounds (VOCs), directly emitted PM_{10} and $PM_{2.5}$, and toxic air contaminants (TACs) such as diesel exhaust PM. Construction activities are not expected to result in any changes to traffic congestion as a "shoo-fly detour" would carry traffic around the construction area.

The nearest sensitive receptors are approximately 0.9-mile from the construction area which is well outside of the Project boundaries. The MDAQMD Air Quality Significance thresholds for construction (**Table 2**) represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), project size, distance to the sensitive receptor, and other applicable criteria.

Construction emissions were estimated using the latest Sacramento Metropolitan Air Quality Management District's Road Construction Model, Version 9.0.0 (SMAQMD 2019, Appendix A). Construction-related emissions for the proposed Project are presented in **Table 4**. The emissions presented are based on the best information available at the time of calculations. The emissions represent the peak daily construction emissions that would be generated by construction of the proposed Project.

Table 2. Construction Emissions from Construction Activity.

	CO (lbs/day)	NOx (lbs/day)	CO2e (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
Project Maximum daily (lbs/day)	89.72	10.51	15,689	0.16	0.62	21.30
MDAQMD Maximum Threshold (lbs/day)	548	137	548,000	137	82	65

As shown, emissions from construction activities associated with the Project would not exceed the MDAQMD significance thresholds for criteria pollutants.

Temporary construction activities could generate fugitive dust from the operation of construction equipment. The Project will comply with construction standards adopted by the MDAQMD as well as Caltrans standardized procedures for minimizing air pollutants during construction. Therefore, the proposed Project will not conflict with the AQMP, violate any air quality standard, result in a net increase of any criteria pollutant, or expose sensitive receptors to substantial pollutant concentrations. With implementation of **AQ-1** through **AQ-3 impacts will be less than significant with mitigation for c) and d).**

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

AQ-1: The construction contractor shall comply with Caltrans' Standard Specifications Section 14-11.04 Dust Control of Caltrans' Standard Specifications (2018).

AQ-2: The construction contractor shall comply with Section 7-1.02C Emissions Reduction and Section 18 Dust Palliative of Caltrans' Standard Specifications (2018).

AQ-3: The Wind Erosion Control BMP (WE-1) from Caltrans' Construction Site *Best Management Practices Manual* will be implemented as follows:

- Water shall be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.
- All distribution equipment shall be equipped with a positive means of shutoff.
- Unless water is applied by means of pipelines, at least one mobile unit shall be available at all times to apply water or dust palliative to the Project.
- If reclaimed water is used, the sources and discharge must meet California Department of Health Services water reclamation criteria and the Regional Water Quality Control Board (RWQCB) requirements. Non-potable water shall not be conveyed in tanks or drainpipes that will be used to convey potable water and there shall be no connection between potable and non-potable supplies. Non-potable tanks, pipes and other conveyances shall be marked "NON-POTABLE WATER – DO NOT DRINK."
- Materials applied as temporary soil stabilizers and soil binders will also provide wind erosion control benefits.

IV. BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (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?	☐	☐	☐	☒

This section describes the natural resources present within and immediately surrounding the Project area and includes a discussion of the special-status species and sensitive habitats potentially occurring in the Project area. Also included is an analysis of the impacts that could occur to biological resources due to implementation of the proposed Project and appropriate mitigation measures to reduce or avoid significant impacts. The analysis of biological resources presented in this section is based on a review of the current Project description, the Biological Resources Technical Report with Aquatic Resources Delineation Report included in an appendix (Dokken 2025a; Appendix B) prepared for the Project, available literature, and a survey conducted by Dokken Engineering biologists in May 2025.

REGULATORY SETTING

This section describes the federal, state, and local plans, policies, and laws that are relevant to biological resources within the Biological Study Area (BSA). Applicable state permits and approvals that will be required before construction of the Project are described previously in *Section 2.4 Required Project Approvals*.

Federal

Federal Endangered Species Act
The Federal Endangered Species Act (FESA) of 1973 (16 U.S.C. section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to Section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. These species and resources have been identified by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS).

Clean Water Act
The Clean Water Act (CWA) was enacted as an amendment to the Federal Water Pollutant Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the U.S. CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. CWA empowers the USEPA to set national water quality standards and effluent limitations and includes programs addressing both point-source and non-point-source pollution. Point-source pollution originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Non-point-source pollution originates over a broader area and includes urban contaminants in storm water runoff and sediment loading from upstream areas. CWA operates on the principle that all discharges into the nation's waters are unlawful unless they are specifically authorized by a permit; permit review is CWA's primary regulatory tool. This Project will require a CWA Section 402 National Pollutant Discharge Elimination System (NPDES) Permit regulated by the EPA.

The United States Army USACE of Engineers (USACE) regulates discharges of dredged or fill material into waters of the U. S. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations).

The Regional Water Quality Control Board (RWQCB) has jurisdiction under Section 401 of the CWA and regulates any activity which may result in a discharge to surface waters. Typically, the areas subject to jurisdiction of the RWQCB coincide with those of USACE (i.e., waters of the U.S. including any wetlands). The RWQCB also asserts authority over "Waters of the state" under waste discharge requirements (WDRs) pursuant to the Porter-Cologne Water Quality Control Act.

Executive Order 13112: Prevention and Control of Invasive Species
Executive Order (EO) 13112 (signed February 3, 1999) directs all federal agencies to prevent and control introductions of invasive species in a cost-effective and environmentally sound manner. As part of the proposed action, Caltrans, as designated by FHWA, is the lead federal agency and therefore would be responsible for ensuring that the proposed action complies with Executive Order 13112 and does not contribute to the spread of invasive species through implementation of avoidance and minimization measures.

Executive Order 13186: Migratory Bird Treaty Act
EO 13186 (signed January 10, 2001) directs each federal agency taking actions that could adversely affect migratory bird populations to work with USFWS to develop a Memorandum of Understanding that will promote the conservation of migratory bird populations. Protocols developed under the Memorandum of Understanding will include the following agency responsibilities:

- Avoid and minimize, to the maximum extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- Restore and enhance habitat of migratory birds, as practicable; and
- Prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist federal agencies in their efforts to comply with the Migratory Bird Treaty Act (MBTA) (50 Code of Federal Regulations [CFR] 10 and 21) and does not constitute any legal authorization to take migratory birds. Take is defined under the MBTA as "the action of or attempt to pursue, hunt, shoot, capture, collect, or kill" (50 CFR 10.12) and includes intentional take (i.e., take that is the purpose of the activity in question) and unintentional take (i.e., take that results from, but is not the purpose of, the activity in question).

State

California Environmental Quality Act
California State law created to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and to work to reduce these negative environmental impacts.

California Endangered Species Act
The California Endangered Species Act (CESA) (California Fish and Game (CFG) Code Section 2050 et seq.) requires the CDFW to establish a list of endangered and threatened species (Section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (Sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing). Candidacy designation temporarily applies CESA protections, including protection from "take" of the species without permit authorization, while CDFW determines the species should be listed as threatened or endangered.

CESA also requires the CDFW to comply with CEQA (Pub. Resources Code Section 21000 et seq.) when evaluating incidental take permit applications (CFG Code Section 2081(b) and California Code Regulations, Title 14, section 783.0 et seq.), and the potential impacts the project or activity for which the application was submitted may have on the environment. CDFW's CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity [California Code Regulations, Title 14, Section 783.5(d)(3)]. CDFW cannot issue an incidental take permit if issuance would jeopardize the continued existence of the species [CFG Code Section 2081(c); California Code Regulations, Title 14, Section 783.4(b)].

Section 1602: Streambed Alteration Agreement
Under CFG Code 1602, public agencies are required to notify CDFW before undertaking any project that will divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occurs during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resources. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

Section 3503 and 3503.5: Bird and Raptors
CFG Code Section 3503 prohibits the destruction of bird nests and Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests.

Section 3513: Migratory Birds
CFG Code Section 3513 prohibits the take or possession of any migratory non-game bird as designated in the Migratory Bird Treaty Act (MBTA) or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Porter Cologne Water Quality Control Act
California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. The act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., such as groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by WDRs and may be required even when the discharge is already permitted or exempt under the CWA.

The RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants, which are then state listed in accordance with CWA Section 303(d). If a state determines that waters are impaired, and the standards cannot be met through point source or non-source point controls (National Pollutant Discharge Elimination System [NPDES] permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads which specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

Regional Water Quality Control Boards
The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

Local

San Bernardino County Policy Plan (2020)
The County Policy Plan is a comprehensive policy document which provides the framework for land use, development, and resource management within the County (County 2020a). It sets forth policies and goals, as well as implementation measures to guide future land use, infrastructure development and environmental preservation. Section V of the Policy Plan includes the Conservation Element, which provides direction regarding the conservation, development, and utilization of the County's natural resources. Its objective is to prevent the wasteful exploitation, destruction and neglect of resources.

Desert Region Habitat is considered a Recognized Important Biological Area per the Policy Plan as it supports various important biological resources such as desert tortoise (*Gopherus agassizii;* [DT]*)* and desert bighorn sheep (*Ovis canadensis nelsoni*) habitat. The Project area is part of the North Desert Region, which represents the largest of the County's five regional planning areas and is characterized by its arid desert climate and expansive open spaces, including the Mojave Desert.

Compliance with all relevant goals and policies outlined in the Policy Plan will be required as part of the Project, including but not limited to:

- **Policy CO 2.1** – The County will coordinate with state and federal agencies and departments to ensure that their programs to preserve rare and endangered species and protect areas of special habitat value, as well as conserve populations and habitats of commonly occurring species, are reflected in reviews and approvals of development programs.

- **Goal CO 5** – The County will protect and preserve water resources for the maintenance, enhancement and restoration of environmental resources.

- **Goal D/CO 1** – Preserve the unique environmental features and natural resources of the Desert Region, including native wildlife, vegetation, water and scenic vistas.

County of San Bernardino Development Code
§ 88.01.060 Desert Native Plant Protection. This Section provides regulations for the removal or harvesting of specified desert native plants in order to preserve and protect the plants and to provide for the conservation and wise use of desert resources. The provisions are intended to augment and coordinate with the Desert Native Plants Act (Food and Agricultural Code §§ 80001 et seq.) and the efforts of the State Department of Food and Agriculture to implement and enforce the Act.

(a) *Definitions*. Terms and phrases used within this Section shall be defined in Division 10 (Definitions) and/or defined by the California Food and Agricultural Code. The California Food and Agricultural Code definition, if one exists, shall prevail over a conflicting definition in this Development Code.

(b) Applicability. The provisions of this Section shall apply to desert native plants specified in Subdivision (c) (Regulated Desert Native Plants) that are growing on any of the following lands, unless exempt in compliance with § 88.01.030 (Exempt Activities):

(1) Privately owned or publicly owned land in the Desert Region.

(2) Privately owned or publicly owned land in any parts of the Mountain Region in which desert native plants naturally grow in a transitional habitat.

(c) Regulated Desert Native Plants. The following desert native plants or any part of them, except the fruit, shall not be removed except under a Tree or Plant Removal Permit in compliance with § 88.01.050 (Tree or Plant Removal Permits). In all cases the botanical names shall govern the interpretation of this Section.

(1) The following desert native plants with stems two inches or greater in diameter or six feet or greater in height:

(A) Dalea spinosa (smoketree).

(B) All species of the genus Prosopis (mesquites).

(2) All species of the family Agavaceae (century plants, nolinas, yuccas).

(3) Creosote Rings, ten feet or greater in diameter.

(4) All Joshua trees.

(5) Any part of any of the following species, whether living or dead:

(C) Olneya tesota (desert ironwood).

(D) All species of the genus Prosopis (mesquites).

(E) All species of the genus Cercidium (palos verdes).

(d) Compliance with Desert Native Plants Act. Removal actions of all plants protected or regulated by the Desert Native Plants Act (Food and Agricultural Code §§ 80001 et seq.) shall comply with the provisions of the Act before the issuance of a development permit or approval of a land use application.

Applicable exempt activities listed in Development Code § 88.01.030 include exemptions for government owned lands; removal of public utilities; and removal that is within 20 feet of a structure that was constructed or set down on the parcel under a County development permit. Due to these exemptions, the Project is not subject to § 88.01.060 Desert Native Plant Protection.

ENVIRONMENTAL SETTING

Prior to field surveys, the BSA was defined as the area required for Project activities, in addition to an approximate 50-foot buffer to account for adjacent biological resources and potential changes in Project design. The total area of the BSA is approximately 21.9 acres.

Online databases from USFWS, CDFW California Natural Diversity Database (CNDDB), and California Native Plant Society (CNPS) were queried in 2025 and 2026 for presence of potential threatened, endangered, rare or special status species within USGS 7.5-minute quadrangles. These searches identified 12 special-status wildlife species and 13 special-status plant species with the potential of occurring in the general vicinity of the BSA. After biological surveys were conducted, each species' specific habitat requirements were compared to actual site conditions and the potential for occurrence was then determined. Raw data returned from the database queries is provided in the appendices of Appendix B. Biological Resources Technical Report.

A general biological survey was conducted on May 15, 2025 by Dokken Engineering biologists. The survey consisted of a general assessment of biological conditions of the Project area, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project vicinity. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities.

On September 23, 2025, HELIX Environmental Planning, Inc. (HELIX) biologists experienced in desert tortoise surveys conducted focused surveys for desert tortoise within the BSA. The purpose of the focused survey was to assess habitat suitability within the BSA and to better inform whether desert tortoises currently occupy the BSA, have occupied it in the recent past, or have potential to occupy it in the future. The surveys were conducted during the tortoise's most active period (April through May and September through October) and when air temperatures were below 95ºF (35°C). The BSA used during the focused survey was the same as the BSA used for the general biological surveys. Clearly unsuitable habitat areas (e.g., the paved NTH) were excluded from the survey area. Protocol-level surveys were not conducted, as the species is assumed to occur within the Project vicinity.

The focused desert tortoise survey was conducted by walking parallel belt transects approximately 100 feet (30 meters) apart while surveying approximately 50 feet (15 meters) on each side of the transect line to achieve 100 percent cover. Biologists visually searched for above-ground tortoises (both out of burrows and within burrows but still visible), as well as tortoise sign (burrows, scat, carcasses, etc.). The survey areas were specifically inspected for desert tortoise sign, including live tortoises; shells, bones, and scutes; scat; burrows and pallets; tracks; eggshell fragments; courtship rings; and drinking sites and mineral licks. The *Desert Tortoise Field Manual* (USFWS 2009) was used to categorize the condition of any potential sign. Mirrors were used to direct sunlight into holes, rock crevices, and other shaded areas to assist in determining the shape, depth, and other characteristics of potential desert tortoise burrows. A handheld global positioning unit was used to maintain the accuracy of transects and to record findings observed during the survey.

While no special-status species were observed during the biological surveys, based on an analysis of habitat requirements, recorded observations, and field surveys it was determined that nine special-status species have the potential to occur within the BSA. There are seven animal species and two plant species that may be encountered, outlined below.

- Burrowing Owl (*Athene cunicularia*) — moderate potential to occur
- LeConte's thrasher (*Toxostoma lecontei*) — low potential to occur
- Loggerhead shrike (*Lanius ludovicianus*) — moderate potential to occur
- American badger (*Taxidea taxus*) — low potential to occur
- Desert kit fox (*Vulpes macrotis arsipus*) — moderate potential to occur
- Desert bighorn sheep (*Ovis canadensis nelsoni*) — low potential to occur
- Desert tortoise (*Gopherus agassizzii*) — low potential to occur
- Pointed dodder (*Cuscuta californica var. apiculata*) — low potential to occur
- Small-flowered androstephium (*Androstephium breviflorum*) — low potential to occur

In addition, a jurisdictional delineation was conducted in accordance with technical methods outlined in the USACE Wetlands Delineation Manual, Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region, and A Field Guide to the Identification of the

Ordinary High-Water Mark in the Arid West Region of the Western United States. The OHWM data sheet is included in Appendix B. Aquatic Resources Delineation Report (Dokken 2025a).

Dominant Land Cover and Vegetative Communities

Dominant land cover and vegetative communities within the BSA consist of disturbed/barren, creosote bush scrub, and ephemeral ditch habitat (**Figure 4. Land Cover**).

Disturbed/Barren
Within the BSA, the disturbed/barren land cover type includes the paved and unpaved roadways and road shoulders of the NTH, as well as the dirt shoo-fly situated just south of the NTH. This land cover type is unvegetated. The BSA contains 2.3 acres (11%) of Disturbed/Barren land cover.

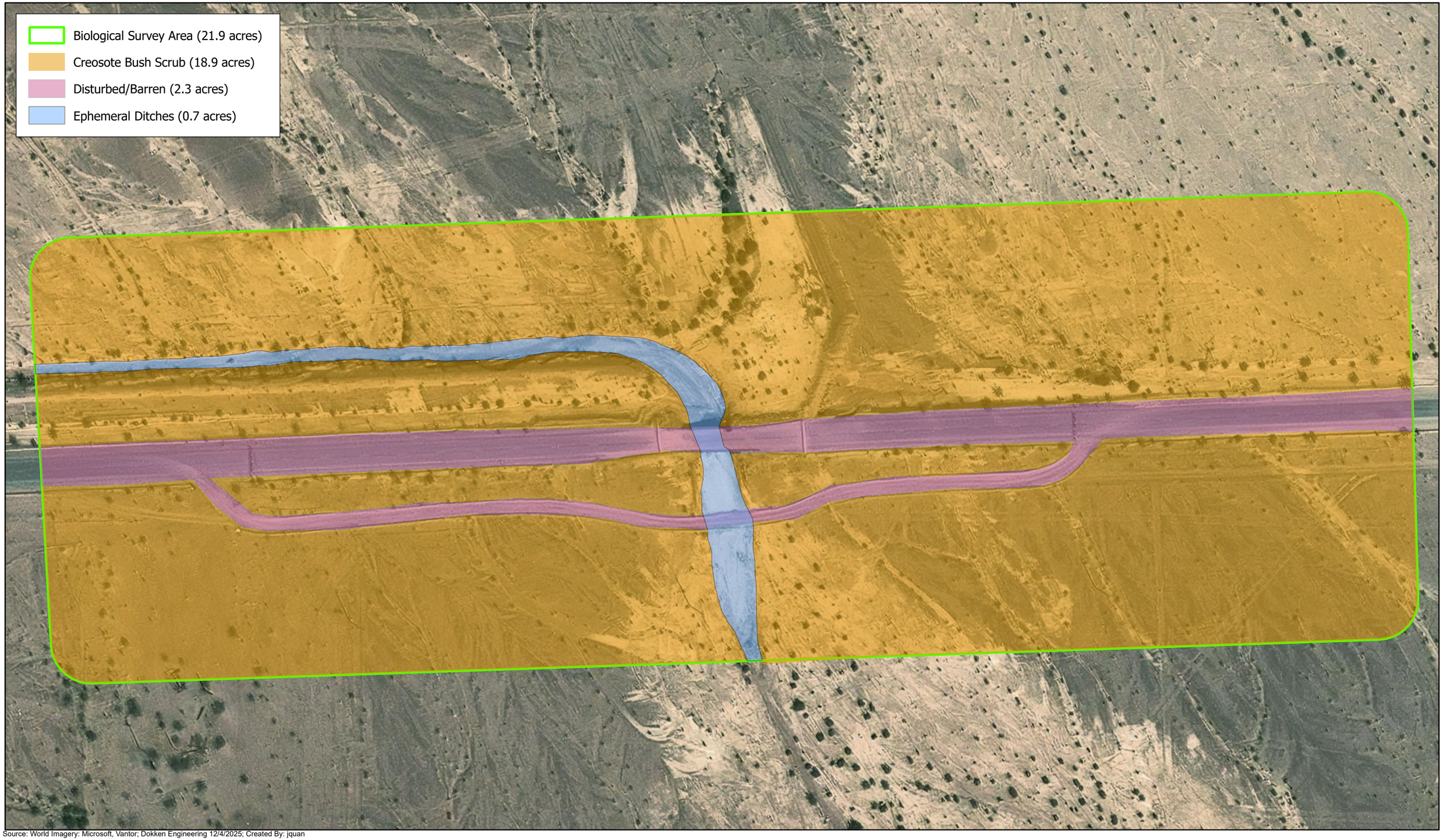
Creosote Bush Scrub
The BSA and the surrounding area are largely composed of creosote bush scrub. The dominant species in this community are creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). This community is shrub-dominated, with sparse shrub cover and a relatively uniform appearance. Individual creosote bush shrubs are spread out evenly across the landscape and mixed with other shrub and groundcover species. Other common shrubs include cheesebush (*Ambrosia salsola*) and rayless encelia (*Encelia frutescens*). This community persists across the open, gently sloping landscape of the alluvial fan and into the ephemeral ditches. The dominant and abundant species of creosote bush scrub are present throughout the BSA, despite slight changes in species composition that occur in proximity to ephemeral sources of water. The BSA contains 18.9 acres (86%) of Creosote Bush Scrub land cover.

Ephemeral Ditch
The ephemeral ditch areas within the BSA comprise Lamego Ditch, which is a man-made channel that collects flow from numerous rills, gullies, and small ephemeral channels on the upslope side of the roadway to convey it under the roadway. This ditch only conveys surface water in direct response to rain events (Dokken 2025a). At the time of the survey, the ditch was not actively flowing, and there were no isolated pools of standing water. Vegetation within the ditch is sparse and includes both native and invasive low-growing species, as well as intermittent smoke trees (*Psorothamnus spinosus*). The absence of perennial or intermittent flow has facilitated the colonization of these species in the ditch, as they are well-adapted to disturbed, dry conditions. The ephemeral Lamego Ditch comprises 0.7 acres (3%) of the BSA.

Special Status Wildlife

Wildlife is considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special status animals occurring on site. Seven special-status animal species were found to have the potential to occur within the BSA: burrowing owl, LeConte's thrasher, loggerhead shrike, American badger, desert kit fox, desert bighorn sheep, and desert tortoise.

Burrowing Owl
The burrowing owl (*Athene cunicularia*) is a small raptor that nests in underground burrows, often created by small mammals. It is a year-long resident of sparsely vegetated habitats like prairies, deserts, grasslands, and agricultural fields. While this species' range is large (covering much of North and South America), its populations have been declining for many years as a result of habitat loss. In California, burrowing owls have been eliminated or are nearly wiped out as a breeding species from nearly a third of their former range.



Source: World Imagery: Microsoft, Vantor; Dokken Engineering 12/4/2025; Created By: jquan

0 55 110
Feet

Figure 4
Land Cover
National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

In October 2024, the burrowing owl was listed as a candidate species under the CESA. The burrowing owl is not protected under the FESA. Burrowing owls may be active during the day or night, but most frequently hunt during the day by perching at the entrance of their burrow. Breeding generally occurs from March through August, peaking in April and May; however, this season may shift depending on climatic conditions. The main threats to this species are habitat loss and vehicular collisions.

The closest CNDDB occurrence of burrowing owl was recorded in 2010, approximately 9 miles southeast of the bridge. The species was not observed during the May 15, 2025 survey; however, several small mammal/reptile burrows have been observed adjacent to similar bridges along NTH, confirming that the BSA does provide suitable habitat for this species. Although there are no nearby occurrences recorded on iNaturalist or eBird, and only one nearby CNDDB occurrence, the BSA is within the species' range and suitable habitat occurs; therefore, the burrowing owl has a moderate potential to occur in the BSA.

LeConte's Thrasher

The LeConte's thrasher (*Toxostoma lecontei*) is a large, sand-colored songbird with a long tail and a long, curved bill. It is known to be elusive and generally occurs in flat, open desert areas dominated by creosote or in small arroyos. This species forages on insects and other arthropods by chasing prey on foot. Their breeding season begins in mid- to late-winter and lasts into late spring or early summer. LeConte's thrasher nests are generally built approximately three feet off the ground within cholla cactus or other thorny desert shrub. The LeConte's thrasher is a CDFW Species of Special Concern. It is not protected under the FESA or CESA.

Although there are no CNDDB occurrences of the LeConte's thrasher recorded within 10 miles of the BSA, there are multiple eBird observations that have been recorded in the area surrounding the BSA in a loose but even dispersal with regular gaps of 10 miles or more between occurrences. This species is known to be elusive, so occurrence data may underestimate its presence in a given area. While this species was not observed during the May 2025 survey, the survey confirmed that suitable desert flat habitat does occur within the BSA; therefore, there is low potential for this species to occur.

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is a medium-sized songbird that generally occupies open areas with short vegetation and well-spaced shrubs, particularly those with spines or thorns. In California, loggerhead shrikes are year-long residents within the Central Valley, south to the Mexican border, excluding mountainous areas. They often occur along roadsides with access to fence lines and utility poles to perch while hunting for prey. Because this species lacks the long talons of a raptor, it generally relies on the presence of thorny shrubs nearby to skewer its prey and allow for easy eating. Breeding generally begins in January or February and may extend into July. Nests are generally constructed in thorny vegetation. The loggerhead shrike is a CDFW Species of Special Concern. It is not protected under the FESA or CESA.

Although there are no nearby occurrences of this species recorded in the CNDDB, several are mapped on iNaturalist. The closest occurrence was recorded on the NTH less than 3 miles west of the BSA in 2024. Despite no individuals being observed during the May 2025 survey, suitable habitat does occur within the BSA. Therefore, there is moderate potential for this species to occur.

American Badger

The American badger (*Taxidea taxus*) is a medium-sized mammal that occurs in open habitats across much of North America. American badgers spend most of their time in underground burrows, where they shelter, rest, breed, and take refuge from the heat. They are nocturnal and

mostly active in the summer, during which time they hunt for prey (generally burrowing rodents) and dig new burrows. Female badgers generally give birth in the spring. The American badger is a CDFW Species of Special Concern. It is not protected under the FESA or CESA.

While the closest CNDDB occurrence is more than 20 miles from the BSA, there is an occurrence on iNaturalist that was recorded in the mountains less than seven miles northwest of the BSA. During the survey, suitable shrubby and herbaceous habitat was observed within and around the BSA, therefore there is low potential for this species to occur.

Desert Kit Fox

The desert kit fox (*Vulpes macrotis arsipus*) is a small mammal that occupies areas of open desert and creosote bush flats, generally with less than 20 percent vegetation cover. Kit foxes are carnivorous and generally hunt at night for birds, reptiles, and sometimes insects. Most of their time is spent in their dens, which can be up to 20 feet deep. Females generally begin searching for a birthing den in September and October and give birth to a litter of four or five pups in February or March. Once they leave their home range (generally the October following their births), pups may travel long distances (up to 20 miles) before settling down. Vehicle collisions are likely a greater contributor to fox mortality than predation (NPS 2015). The desert kit fox is not protected under the CESA or FESA, nor is it a CDFW Species of Special Concern. It is protected under Section 460 of Title 14 of the California Code of Regulations, which prohibits the take of five furbearing mammals, including the desert kit fox.

The CNDDB does not track occurrences of this species; therefore, occurrence data for this species is limited. There are no occurrences of this species recorded on iNaturalist in the Project vicinity. Although no kit foxes or signs of foxes were observed during the May 2025 biological survey, the BSA contains suitable habitat for this species. Therefore, there is moderate potential for this species to occur in the Project vicinity.

Desert Bighorn Sheep

Desert bighorn sheep (*Ovis canadensis nelsoni*) is a large ungulate mammal that is native to the western United States and Mexico. There are three subspecies of bighorn sheep, two of which are found in California – Sierra Nevada bighorn sheep (*O. c. sierrae*) and desert bighorn sheep. Furthermore, there is a population of desert bighorn sheep that inhabits the Peninsular Ranges of far southern California, which is federally endangered and State threatened. The specific population of desert bighorn sheep that has the potential to inhabit the BSA is neither threatened nor endangered, but is Fully Protected by CDFW. The desert bighorn sheep occurs in desert mountain ranges. The species mainly inhabits the steep, rocky slopes of rugged mountains; however, they will descend to lower elevation, open habitats in order to forage. Water sources are particularly important to the species and their foraging habits. Major contributions to the species' decline have been the spread of livestock disease and loss of important niche habitat

The BSA contains an ephemeral ditch at the foot of a natural alluvial fan, roughly a mile away from the surrounding mountain slopes. During wet years, the species may utilize areas near the BSA for foraging. The nearest historical (1986) documented CNDDB occurrence of the species is a sighting of approximately 200 individuals in the mountainous areas approximately three miles northeast of the BSA. Two other historical occurrences were recorded within 10 miles of the BSA. Furthermore, several more recent (2022 and 2023) occurrences have been recorded in the same locations on iNaturalist. Due to the presence of potentially suitable foraging habitat and the historical and recent occurrences nearby, the species has a low potential to occur within the BSA, specifically during the wet season when they would potentially utilize the BSA for foraging.

Desert Tortoise

The desert tortoise (*Gopherus agassizii*) is a species of terrestrial reptile native to the Mojave and Sonoran Deserts. The species is federally listed as threatened and state-listed as endangered. Desert tortoises spend most of their long lifetime in burrows underground, even during their seasons of activity. These burrows can be identified by their unique half-circle shape. Individuals emerge from their burrows in late winter and early spring, remaining active through fall, although their activity typically decreases throughout the summer months. Mating occurs during spring and fall. Desert tortoises are very susceptible to dehydration. Between the desert's infrequent rains, tortoises store water in their bladder for long periods of time. If startled, an individual may expel water from their bladder and be at severe risk of dehydration. For this reason, the species is extremely sensitive to human contact and disturbance. The species is listed as threatened under the FESA and endangered under the CESA. Final critical habitat was designated for the species in 1994.

Prior to field surveys, a CNDDB search was conducted, which revealed five documented occurrences of desert tortoise within a 10-mile radius of the BSA. The closest occurrence was recorded approximately 10 miles north of the Mound Ditch bridge in 2008. There is also an iNaturalist occurrence approximately five miles northwest of the BSA from 2023. HELIX biologists conducted a focused survey in September 2025 and determined that the habitat within the BSA is suitable for desert tortoise, with a small amount of unsuitable habitat occurring along the paved NTH. Soils outside of paved areas were found to be loose and friable, conducive to burrow development. However, no desert tortoises or other signs were observed during this focused survey. Appendix B presents the complete findings of this survey. The presence of suitable habitat and several recent and old occurrences in the Project vicinity indicate that the desert tortoise has a low potential to occur within the BSA. The BSA does not overlap with designated critical habitat.

Special Status Plants

Plant species are considered to be special-status if they meet one or more of the following criteria: 1) are listed or proposed for listing under the FESA; 2) are listed or candidates for listing under the CESA; and/or 3) are assigned ranks of 1, 2, or 3 by the CNPS. Two special-status species – small-flowered androstephium and pointed dodder – were determined to have the potential to occur within the BSA.

Small-Flowered Androstephium

Small-flowered androstephium (*Androstephium breviflorum*) is a perennial bulbiferous herb in the family Themidaceae that inhabits sandy to rocky soil in open desert scrub at elevations of 720 to 2,625 feet. It has a CNPS rare plant rank of 2B.2, meaning that it is rare, threatened, or endangered in California, but common elsewhere. It is known in California from 123 total occurrences and is threatened by development of solar energy farms.

A CNDDB search was conducted prior to field surveys, which revealed no occurrences of small-flowered androstephium within a 10-mile radius of the BSA (CDFW 2025b). However, there are documented CNDDB occurrences to the east and west of the BSA just outside this radius in roadside alluvial fan environments similar to that of the BSA. The species was not observed during the May 15, 2025 survey; however, the small-flowered androstephium is a bulbiferous herb that flowers from March to April and would only be observable above ground during that period. There is suitable creosote bush scrub habitat within the BSA that the species could inhabit, indicating a low potential for the small-flowered androstephium to occur within the BSA.

Pointed Dodder
Pointed dodder (*Cuscuta californica* var. *apiculata*) is an annual herb or vine that parasitizes herbs in sandy soils in Mojavean and Sonoran desert scrub and blooms from February through August. It has a CNPS rare plant rank of 3, meaning that it is on the review list. While there are no CNDDB occurrences recorded for this species, there are 15 records on Calflora. These occurrences are concentrated mostly in San Bernardino County, with other occurrences recorded in Riverside and San Diego Counties.

Although there are no CNDDB records of this species, there is one Calflora occurrence, recorded in 2009, situated along the NTH on the border of the Amboy and Cadiz USGS 7.5-minute quadrangles. During the May 15, 2025, survey, the species was not observed within the BSA. However, there is suitable creosote bush scrub habitat within the BSA that the species could inhabit, and thus it was determined that the pointed dodder has a low potential to occur within the BSA.

DISCUSSION OF IMPACTS

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?

Less Than Significant Impact with Mitigation. As described above, seven special-status animal species were found to have the potential to occur within the BSA: burrowing owl, LeConte's thrasher, loggerhead shrike, American badger, desert kit fox, desert bighorn sheep, and desert tortoise. Migratory birds and roosting bats also have the potential to occur in the Project area. The following is a discussion on potential impacts to special status wildlife and plants and proposed avoidance, minimization, and mitigation measures that when incorporated will reduce impacts to a less than significant level.

Project Impacts to Burrowing Owl
Should burrowing owls occur within the BSA during construction, they could be temporarily affected by the Project activities. Direct impacts on burrowing owls could occur if burrowing owls are occupying burrows that would be excavated or otherwise disturbed. Indirect impacts, such as noise and dust production caused by Project activities, could temporarily reduce the availability of suitable habitat for burrowing owls to occupy. It is anticipated that construction work would mostly occur within the existing roadway and outside of a suitable habitat for the burrowing owl. Furthermore, the implementation of measure **BIO-11** would avoid any take of/direct impacts on burrowing owl by requiring standard nesting bird and burrowing owl clearance surveys to occur prior to the start of construction to ensure that no occupied burrows would be affected by ground-disturbing activities. Areas temporarily disturbed by the shoo-fly construction would be regraded and scarified following construction, as described in avoidance and minimization measures **BIO-1** and **BIO-12**. Approximately 0.22 acres of suitable burrowing owl habitat (creosote bush scrub) would be permanently impacted by the removal and placement of fill along the length of the NTH at the bridge site. However, because similar or higher-quality habitat is abundant within and around the BSA, the limited permanent impacts on burrowing owl habitat are expected to have a negligible effect on the local population of owls.

Project Impacts to LeConte's Thrasher
There is potential for the construction of the Project to result in both direct and indirect effects on the LeConte's thrasher, should it occur in the BSA during construction. Direct

impacts could occur if vegetation removal or other ground disturbance were to occur during the nesting season, which is generally from January to June. Indirect impacts such as noise and dust production caused by Project activities could temporarily reduce the availability of suitable habitat for LeConte's thrasher to occupy. However, construction work would mostly occur within the existing roadway, outside of suitable habitat for the LeConte's thrasher. Furthermore, the implementation of measure **BIO-11** would avoid any direct impacts on LeConte's thrasher by requiring standard nesting bird clearance surveys to occur prior to the start of construction to ensure that no occupied nests would be affected by ground-disturbing activities. Areas temporarily disturbed by the shoo-fly construction would be regraded and scarified following construction, as described in avoidance and minimization measures **BIO-1** and **BIO-12.** Approximately 0.22 acres of suitable LeConte's thrasher habitat (creosote bush scrub) would be permanently impacted by the removal and placement of fill along the length of the NTH within the BSA. However, because similar or higher-quality habitat is abundant within and around the BSA, the limited permanent impacts on LeConte's thrasher habitat are expected to have a negligible effect on the local population.

Project Impacts to Loggerhead Shrike

There is potential for the construction of the Project to result in both direct and indirect effects on the loggerhead shrike, should it occur in the BSA during construction. Direct impacts could occur if vegetation removal or other ground disturbance were to occur during the nesting season, which is generally from January to July. Indirect impacts, such as noise and dust production caused by Project activities, could temporarily reduce the availability of suitable habitat for the loggerhead shrike to occupy. However, construction work would mostly occur within the existing roadway, outside of suitable habitat for the loggerhead shrike. Furthermore, the implementation of measure **BIO-11** would avoid any direct impacts on the loggerhead shrike by requiring standard nesting bird clearance surveys to occur prior to the start of construction to ensure that no occupied nests would be affected by ground-disturbing activities. Areas temporarily disturbed by the shoo-fly construction would be regraded and scarified following construction, as described in avoidance and minimization measures **BIO-1** and **BIO-12.** Approximately 0.22 acres of suitable loggerhead shrike habitat (creosote bush scrub) would be permanently impacted by the removal and placement of fill along the length of the NTH within the BSA. However, because similar or higher-quality habitat is abundant within and around the BSA, the limited permanent impacts on loggerhead shrike habitat are expected to have a negligible effect on the local population.

Project Impacts to American Badger

Should American badgers occur within the BSA during construction, they could be temporarily affected by the Project activities. Direct impacts on badgers could occur if badgers are occupying burrows that would be excavated or otherwise disturbed. Indirect impacts such as noise and dust production caused by Project activities could temporarily reduce the availability of suitable habitat for badgers to occupy. However, construction work would mostly occur within the existing roadway, outside of a suitable habitat for the badger. Furthermore, the implementation of measure **BIO-13** would avoid any direct impacts on the American badger by requiring pre-construction clearance surveys prior to the start of construction to ensure that no occupied burrows would be affected by ground-disturbing activities. Areas temporarily disturbed by the shoo-fly construction would be regraded and scarified following construction, as described in avoidance and minimization measures **BIO-1** and **BIO-12**. Approximately 0.22 acres of suitable American badger habitat (creosote bush scrub) would be permanently impacted by the removal and placement of fill along the length of the NTH within the BSA. However, because similar or

higher-quality habitat is abundant within and around the BSA, the limited permanent impacts on American badger habitat are expected to have a negligible effect on the local population.

Project Impacts to Desert Kit Fox

Should desert kit fox occur within the BSA during construction, they could be temporarily affected by the Project activities. Direct impacts on kit foxes could occur if they are occupying burrows that would be excavated or otherwise disturbed. Indirect impacts, such as noise and dust production caused by Project activities, could temporarily reduce the availability of suitable habitat for kit foxes to occupy. However, construction work would mostly occur within the existing roadway, outside of a suitable habitat for the kit fox. Furthermore, the implementation of measure **BIO-13** would avoid any direct impacts on the kit fox by requiring pre-construction clearance surveys prior to the start of construction to ensure that no occupied burrows would be affected by ground-disturbing activities. Areas temporarily disturbed by the shoo-fly construction would be regraded and scarified following construction, as described in avoidance and minimization measures **BIO-1** and **BIO-12.** Approximately 0.22 acres of suitable desert kit fox habitat (creosote bush scrub) would be permanently impacted by the removal and placement of fill along the length of the NTH within the BSA. However, because similar or higher-quality habitat is abundant within and around the BSA, the limited permanent impacts on desert kit fox habitat are expected to have a negligible effect on the local population.

Project Impacts to Desert Bighorn Sheep

Desert bighorn sheep are large and conspicuous animals. It is highly unlikely that any one individual sheep would be inadvertently harmed by Project activities such as excavation or pile driving, simply due to their size and visibility. In addition, the species is only likely to enter the BSA during specific periods of water availability, in the springtime and during wetter years. Because the species is only likely to use the Project area seasonally, it is unlikely that the species would be encountered during construction. The most likely impact to the species would be a loss of suitable foraging habitat and water resources, which is critical in the desert where surface water accessibility is rare and infrequent. This loss would only be temporary, occurring during construction activities when vegetation has been removed and access to shade provided by the bridge is obstructed by construction equipment and materials. While small permanent impacts to potentially suitable creosote scrub habitat would occur (0.22 acres), these impacts would be negligible given the extent of available similar habitat within and surrounding the BSA. Furthermore, the implementation of measure **BIO-14** would avoid any direct impacts on the species by ensuring the species can move out of the Project area if observed during construction.

Project Impacts to Desert Tortoise

Project impacts on the desert tortoise may include loss of foraging habitat, destruction or disturbance of burrows, noise, dust, and light pollution, and/or direct harm to individual tortoises or their eggs during ground disturbance activities. The implementation of the avoidance and minimization measures **BIO-15 through BIO-24** would reduce the potential for these impacts to occur to an insignificant level. These measures include conducting pre-construction clearance surveys, installing exclusionary fencing around the work areas, requiring a biological monitor to be present during ground-disturbing activities with the potential to impact the desert tortoise, and more. **Figure 3** shows the proposed locations where fencing would be installed. While small permanent impacts on potentially suitable desert tortoise habitat could occur (0.22 acres), these impacts would be negligible given the extent of available similar habitat within and surrounding the BSA.

Project Impacts to Small-Flowered Androstephium
Small-flowered androstephium has a low potential to occur within the BSA. Project activities such as staging, grading, and vegetation removal could cause temporary or permanent impacts on this species and its habitat. Measures **BIO-7** through **BIO-10** would further reduce the potential for impacts to this species.

Project Impacts to Pointed Dodder
Pointed dodder has low potential to occur within the BSA. Project activities such as staging, grading, and vegetation removal could result in temporary or permanent impacts on the pointed dodder. With the implementation of avoidance and minimization measures **BIO-7** through **BIO-10**, direct impacts on the pointed dodder are not anticipated. With implementation of the above mitigation measures, impacts to special status species is less than significant.

Project Impacts to Migratory Birds and Bats
Native bird and raptor species are protected under the California Fish and Game Code Section 3503 and 3503.5 and have the potential to nest within the BSA. Further, bats may utilize bridge structures for roosting and the formation of maternal colonies. Avoidance and minimization measure, **BIO-11**, **BIO-25**, and **BIO-28** would be implemented to avoid take of nesting birds and bats.

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 US Fish and Wildlife Service?

Less than Significant with Mitigation. The natural communities identified within the BSA include an ephemeral ditch and creosote bush scrub. The ephemeral ditch, Lamego Ditch, is present under the bridge in the Project area and conveys water during and immediately following rain events. However, Lamego Ditch is not under the jurisdiction of the U.S. Army Corps of Engineers as a Water of the U.S., since it is not a traditionally navigable waterway, does not meet the definition of "relatively permanent," nor is it a tributary to such water. Creosote bush scrub is also present. This vegetation community is dominated by creosote bush (*Larrea tridentata*) and provides potentially suitable habitat for special status plant and wildlife species, including the state and federally listed desert tortoise. The creosote bush scrub within the Project area has been previously disturbed by human and vehicle traffic due to its proximity to the NTH. The proposed Project would potentially result in permanent and temporary impacts to the ephemeral Lamego Ditch and creosote bush scrub. **Table 3** outlines the quantities of permanent and temporary impacts within the project area.

Table 3. Project Impacts

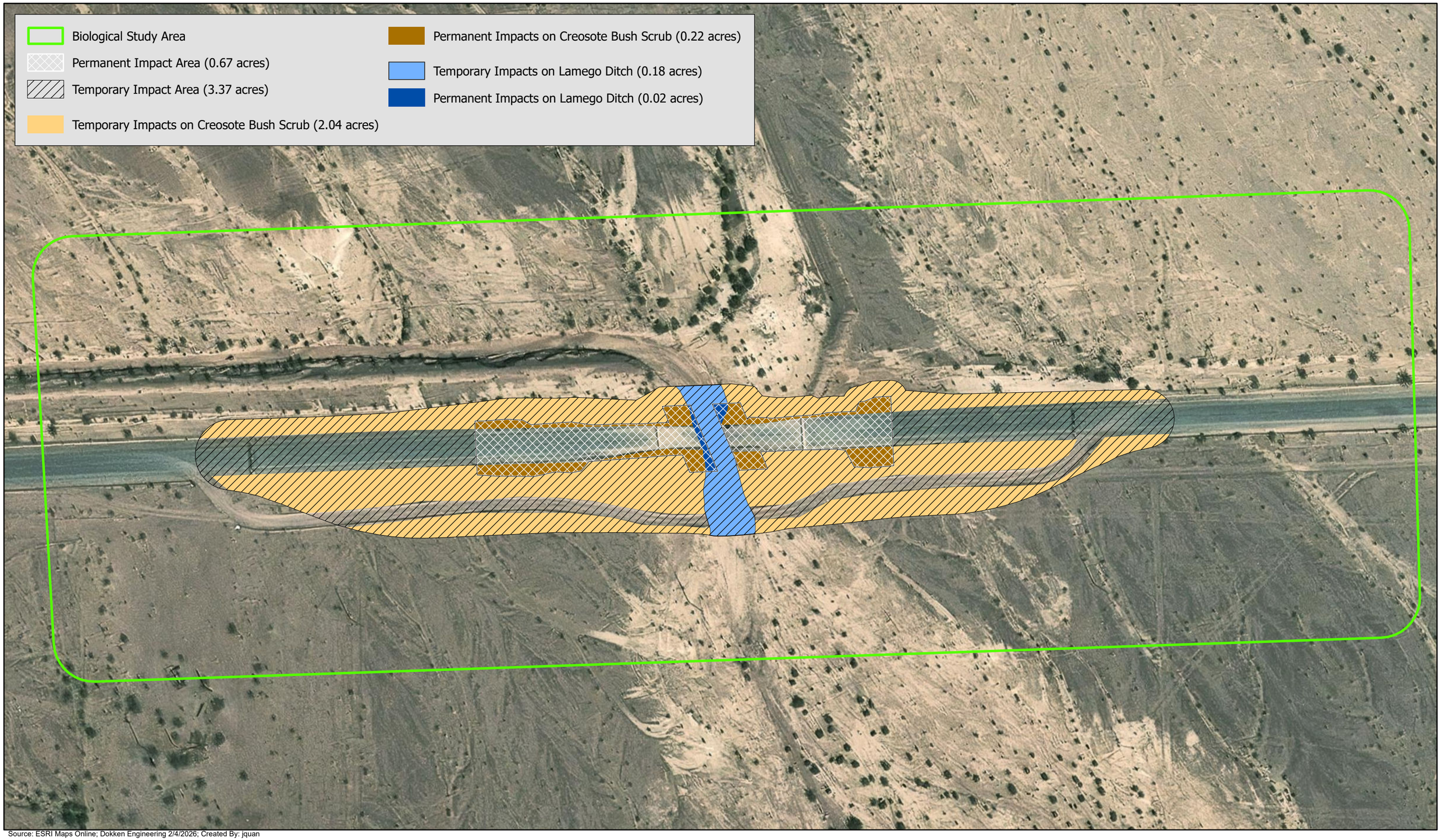
Habitat Type	Temporary Impact Area (acres)	Permanent Impact Area (acres)
Lamego Ditch	0.18	0.02
Creosote Bush Scrub	2.04	0.22
TOTAL	**2.22**	**0.24**

The Project would temporarily impact approximately 0.18 acres of Lamego Ditch within the BSA (**Figure 5. Project Impacts**). Temporary impacts would occur from constructing a temporary road realignment with a low water crossing at the bridge, as well as staging and access areas for the installation of the new bridge. The ditch would be dry at the time of construction. Approximately 0.02 acres of permanent impacts on the ephemeral Lamego ditch would result from the placement of RSP at the base of the bridge. With

implementation of measures **BIO-1** through **BIO-6**, impacts to the Lamego ephemeral ditch would be less than significant with mitigation incorporated.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. There are no federally protected wetlands, as defined by Section 404 of the Clean Water Act present within or immediately adjacent to the Project area.



Source: ESRI Maps Online; Dokken Engineering 2/4/2026; Created By: jquan

0 110 220 Feet

Figure 5
Project Impacts

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

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?

No Impact. No essential fish habitat (EFH) is present within the BSA; therefore, no EFH consultation is required. The existing NTH and railroad tracks to the south are the largest barriers to wildlife movement within the BSA, mainly affecting small terrestrial species, such as the desert tortoise, that are more likely to be harmed by vehicle traffic. Additionally, according to CDFW's Habitat Connectivity Viewer, the area between the Marble Mountains to the north and the Ship and Old Woman Mountains to the southeast of the NTH is considered a Conservation Planning Linkage which connects the core natural areas, the mountain ranges located to the north and south of the NTH. Wildlife species that inhabit the mountainous terrain in the vicinity of the BSA may utilize the valley in which the NTH sits as a corridor for movement between key habitats. The Project would consist of improvements to the existing NTH that would not further impede wildlife movement. This Project will not affect any migratory wildlife corridors or the movement of any native resident or migratory fish or wildlife species. This Project will not 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?

No Impact. Tree removal will not be required as a part of this Project. This Project will be conducted in accordance with all San Bernardino environmental policies and ordinances. This Project will not conflict with any local policies or ordinances protecting biological resources.

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?

No Impact. There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans within the Project area; therefore, the Project will have no impact or conflict with any habitat conservation plan.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

BIO-1: Best Management Practices (BMPs):

- Disturbed soils would be covered by loose bulk materials or other materials (like waddles) to reduce erosion and runoff during rainfall events.
- Disturbed soils would be stabilized, through watering or other measures, to prevent the movement of dust at the Project area caused by wind and construction activities such as traffic and grading activities.
- All concrete curing activities would be conducted to minimize spray drift and prevent curing compounds from entering the waterway directly or indirectly.
- All construction materials, vehicles, stockpiles, and staging areas would be situated outside of ephemeral ditches as feasible. All stockpiles would be covered as feasible.

- All erosion control measures and storm water control measures would be properly maintained until final grading has been completed and permanent erosion control measures have been implemented.
- All disturbed areas would be restored to pre-construction contours so that hydrologic function of the ephemeral ditches is not permanently impacted.
- All construction materials would be hauled off-site after completion of construction.

BIO-2: Refueling or maintenance of equipment shall not be permitted to occur within the ephemeral ditch in the Project area. Refueling and maintenance must occur on the existing paved roadways rather than within natural communities when feasible. When refueling and maintenance activities occur in natural communities, plastic sheeting or other secondary containment measures will be used to capture accidental spills before they can contaminate the soil. Secondary containment must have a raised edge (e.g., sheeting wrapped around wattles).

BIO-3: Equipment will be checked daily for leaks and will be well-maintained to prevent lubricants and any other deleterious materials from entering natural environments.

BIO-4: A chemical spill kit must be kept on-site and available for use in the event of a spill.

BIO-5: Secondary containment consisting of plastic sheeting or other impermeable sheeting shall be installed underneath all stationary equipment located on pervious surfaces to prevent petroleum products or other chemicals from contaminating the soil or from spilling directly into ephemeral ditches. Secondary containment must have a raised edge (e.g., sheeting wrapped around wattles).

BIO-6: Project activities will not occur during any periods of active precipitation or when standing water or observable surface water flow is present in the ephemeral ditch within the BSA. In the Mojave Desert, this is most likely to occur between November and April, and during the summer monsoon season from July to September. When precipitation is occurring or surface water is present, Project work within the ephemeral ditch channel will be halted to minimize disturbance to aquatic resources and desert wildlife, which are most active during this critical time when water is available.

BIO-7: An environmental awareness training shall be conducted prior to the onset of Project work for all construction personnel discussing the special-status plant and wildlife species with the potential to occur in the BSA. The training will also discuss how to proceed if there are any encounters of special-status species within the work area, as well as measures and BMPs that will be implemented to avoid impacts on such species.

BIO-8: During the ideal blooming period (March – April) prior to the beginning of construction activities, a rare plant survey will be conducted by a biologist. If individuals or populations of rare plants are observed within the BSA during this survey, the area around the rare plants will be marked with high-visibility Environmentally Sensitive Area fencing. Project activities will not be permitted to encroach upon the fencing, and vegetation removal will not be authorized within the boundaries of said fencing.

BIO-9: All vegetation removal will be minimized to the greatest extent feasible. Trees and shrubs shall be trimmed, rather than removed, unless absolutely necessary for Project activities.

BIO-10: Prior to the initial arrival at the bridge and prior to leaving at the completion of construction, equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.

BIO-11: The construction contractor shall avoid removing any vegetation or performing structure demolition during the nesting bird season (January 15 to July 31). If either of these activities must occur within the nesting season, a pre-construction nesting bird survey, which includes the burrowing owl, must be conducted no more than 3 days prior to the activity commencing. Survey methodology shall assure 100% visual coverage of the survey area – which shall include the Project work areas plus a 500-foot buffer, as property access allows – and will follow current accepted species survey methodology. Structure demolition or vegetation removal must occur within 3 days from the nesting bird survey.

A no-disturbance buffer will be established around any active nest of migratory birds and raptor species. Standard no-disturbance buffers of 100 feet for migratory birds and 300 feet for raptor species may be altered at the discretion of the Project biologist, based on species, location of the nest, and the biologist's expertise. The contractor must immediately stop work in the nesting area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the Project biologist and in coordination with the County) in the buffer area until a qualified biologist determines the nest is no longer active.

Should burrowing owl, active burrowing owl burrows, or sign thereof be identified within the survey area, the County and Project biologist will notify and coordinate with CDFW to determine if a plan is required to avoid, minimize, and/or mitigate any potential impacts.

BIO-12: Following construction, the areas temporarily impacted by the shoo-fly construction will be scarified 6 inches deep to kick-start the site's natural cycle of plant recruitment. Scarification could be carried out using a disc, shallow ripper, or similar implement.

BIO-13: Biologists shall conduct pre-construction den surveys for desert kit fox and American badger 14 to 21 days and 24 hours before any vegetation removal or ground-disturbing activities. Pre-construction surveys for desert kit fox and American badger will include all areas of direct disturbance, plus a 200-foot buffer, as property access allows. The locations of American badger and desert kit fox dens will be recorded. Current status and land use by the American badger and desert kit fox will be determined through the use of wildlife cameras, scopes, and tracking substrate.

Inactive and unoccupied dens within the Project work areas will be collapsed after their status has been determined through monitoring. Active dens will be monitored, and a qualified biologist will establish a 50-meter (165-foot) non-disturbance buffer during the non-breeding season and a 150-meter (500-foot) non-disturbance buffer during the breeding/pupping season (generally February 1 through May 15). The size of the buffer may be reduced if a qualified biologist determines that it is safe to do so without impacting the individual(s). Active burrows shall be avoided until they are confirmed unoccupied by a qualified biologist. Burrow occupancy will be determined using a tracking medium such as a diatomaceous earth or fine clay and infrared cameras placed at the entrance(s). If no tracks or evidence of activity is observed after 3 consecutive nights of monitoring, the burrow shall be scoped, excavated, and backfilled using nonpowered tools. If tracks or evidence of burrow occupancy is observed and the active

den cannot be avoided with an adequate non-disturbance buffer, CDFW will be consulted to determine the course of action pertaining to exclusion efforts and passive translocation, which may include development of a management plan for CDFW's review and approval.

To guard against the spread of distemper and other diseases, equipment and tools used for burrow occupancy monitoring and excavation will be treated with a disinfectant that is proven effective. This includes, but is not limited to, accelerated hydrogen peroxide, potassium peroxymonosulfate, or a 1:20 dilution of household bleach. Fieldworker clothing will be washed in hot water and dried using a dryer. CDFW will be notified in dealing with injured, sick, or dead American badger or desert kit fox.

BIO-14: If desert bighorn sheep are observed within the Project area, work will be halted until the individual(s) have left the Project area. Construction personnel are not authorized to come into direct contact with desert bighorn sheep. The species must be allowed to move throughout the Project area undisturbed by humans, vehicles, or construction machinery.

BIO-15: An authorized Project biologist, approved by CDFW, will monitor all ground disturbing activities which may cause take of desert tortoise. The authorized biologist will also oversee the implementation of all avoidance and minimization measures put in place to protect the desert tortoise.

BIO-16: Approximately 2-4 weeks in advance of construction activities, a focused survey for desert tortoise and their burrows within the Project area shall occur by the authorized biologist. The survey shall be conducted as described in the USFWS (2019) Mojave Tortoise Pre-project Survey Protocol and shall ensure 100% visual coverage of the survey area. Additionally, within 24 hours of the start of soil disturbance, another focused preconstruction clearance survey for the desert tortoise will be conducted by the authorized biologist. If a tortoise or tortoise sign is found in the impact areas or within the immediate vicinity during either pre-construction survey, USFWS and CDFW shall be contacted immediately and the tortoise shall be allowed to move outside the construction area/exclusionary area on their own before the Project can commence installation of exclusionary fencing, on-site construction preparation activities, or any construction activities.

BIO-17: Construction impact areas shall be temporarily fenced with exclusionary fencing in order to contain construction activities within the Project area and prevent the desert tortoise from entering the Project area. The desert tortoise exclusionary fencing must be in compliance with the standards outlined in the 2009 USFWS Desert Tortoise (Mojave Population) Field Manual. However, any specifications in the Field Manual that pertain specifically to bighorn sheep fencing are not required to be implemented. The Caltrans specifications for desert tortoise fencing should include these materials and provide further details. The desert tortoise exclusion fencing shall be delineated in coordination with the authorized Project biologist. If there are any areas of the Project area not fenced by desert tortoise exclusionary fencing, the limits of the project area should be staked with high visibility flagging attached to delineate project limits .

BIO-18: Desert tortoise exclusion fencing will be inspected twice daily (once before construction activities begin and once after construction activities have ceased for the day during ground disturbing activities in the Project area which may cause take of desert tortoise) and immediately after precipitation events during Project activities by the authorized Project biologist or trained personnel and repaired as needed. Repairs must occur within

two days. Any debris that accumulates along the fence should be removed as the fence is inspected.

BIO-19: The Project biologist shall monitor all ground disturbing activities which may cause take of the desert tortoise. Project personnel shall carefully check under parked vehicles or equipment for desert tortoises before moving the vehicles or equipment. Should a desert tortoise be found within the Project area, construction activities shall cease and the USFWS and CDFW shall be contacted within 12 hours. The tortoise shall be allowed to leave the Project area limits on its own volition. Construction may only recommence at the Project biologist's authority and once the desert tortoise is outside of the Project area.

BIO-20: Construction and maintenance vehicles shall not exceed 15 miles per hour in tortoise habitat, which includes all natural communities within the BSA, during periods of higher tortoise activity, March 1 through November 1.

BIO-21: Open trenches, auger holes, or other excavations that may act as pitfall traps shall be inspected prior to working in or around the excavation and prior to backfilling. Other excavations that remain open overnight shall be covered to prevent them from becoming pitfall traps. Any animals found within the excavations shall be relocated by the Project biologist. Should any listed or sensitive species be found within these excavations, the appropriate wildlife agency shall be contacted immediately, and subsequent action shall be performed under the direction of the lead wildlife agencies.

BIO-22: Should a desert tortoise be injured as a result of Project-related activities, it shall be immediately taken to a CDFW-approved rehabilitation facility by the authorized biologist. The CDFW-approved rehabilitation facility in the vicinity of the Project area is the Big Bear Alpine Zoo (909) 584-1299. Any veterinarian bills for such injured tortoises shall be paid by San Bernardino County. The CDFW and USFWS shall be notified within 12 hours of the incident. Notification shall include the date, time, location, and circumstances of the incident.

BIO-23: Should a desert tortoise be killed by Project related activities or found dead within the construction area, remains shall be collected by the Project biologist and frozen as soon as possible. CDFW and USFWS shall be notified within 12 hours and a written report shall be sent within five calendar days of the incident. Notification shall include the date, time, location, and circumstances of the finding. The Project biologist will coordinate with both CDFW and the USFWS regarding direction on where to bring the frozen specimen.

BIO-24: Placement and construction of rock slope protection will require the interstitial spaces within the rock slope protection to be filled with substrate to prevent trapping of desert tortoise.

BIO-25: Prior to existing bridge demolition, a qualified biologist must conduct a focused bat survey on the existing bridge structures. If a maternal colony is found within the Project area, a qualified bat biologist shall prepare a bat eviction plan in order to evict bats during the appropriate non-pupping season, from September 1 to October 15 or March 15 to April 15. If no maternal colony or potential maternal colony is identified, work may proceed as scheduled and no additional considerations for bat species are required.

BIO-26: All construction crew members will allow wildlife enough time to escape initial clearing and grubbing activities. Where determined appropriate by the Project biologist, initial

clearing and grubbing must be accomplished by using hand tools. If initial clearing and grubbing using hand tools is not feasible, then heavy equipment may be utilized if operated at speeds less than 3 miles per hour.

BIO-27: The contractor must dispose of all food-related trash in closed containers and must remove it from the Project area each day during construction. Construction personnel must not feed or attract wildlife to the Project area.

BIO-28: The contractor must not apply rodenticide or herbicide within the BSA during construction.

V. CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

This section describes the cultural resources present within and immediately surrounding the Project Area Limits (PAL). Also included is an analysis of the impacts that could occur to cultural resources due to implementation of the proposed Project and appropriate mitigation measures to reduce or avoid significant impacts. The analysis of cultural resources presented in this section is based on a review of the current Project description, the Cultural Resources Technical Report (Dokken 2025b) prepared for the Project, available literature, and an archaeological field survey conducted by Dokken Engineering archaeologists on July 7, 2025. Please note that due to the inclusion of sensitive and confidential information, the Cultural Resources Technical Report is not available to the general public.

REGULATORY SETTING

CEQA provides statutory requirements for establishing the significance of historical resources in Public Resources Code (PRC) Section 21084.1. The CEQA Guidelines (Section 10564.5[c]) also require consideration of potential Project impacts to "unique" archaeological sites that do not qualify as historical resources. The statutory requirements for unique archaeological sites that do not qualify as historical resources are established in PRC Section 21083.2. These two PRC sections operate independently to ensure that significant potential effects on historical and archaeological resources are considered as part of a Project's environmental analysis. Historical resources, as defined in Section 15064.5 as defined in the CEQA regulations, include 1) cultural resources listed in or eligible for listing in the California Register of Historical Resources (California Register); 2) cultural resources included in a local register of historical resources; 3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in one of several historic themes important to California history and development.

Under CEQA, a Project may have a significant effect on the environment if the Project could result in a substantial adverse change in the significance of a historical resource, meaning the physical demolition, destruction, relocation, or alteration of the resource would be materially impaired. This would include any action that would demolish or adversely alter the physical characteristics of an historical resource that convey its historic significance and qualify it for inclusion in the California Register or in a local register or survey that meets the requirements of PRC Section 5020.1(l) and 5024.1(g). PRC Section 5024 also requires state agencies to identify and protect sate-owned resources that meet National Register of Historic Place (National Register) listing criteria. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocation, or demolishing state-

owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

CEQA and the CEQA Guidelines also recommend provisions be made for the accidental discovery of archaeological sites, historical resources, or Native American human remains during construction (PRC Section 21083.2(i) CCR Section 15064.5[d and f]).

ENVIRONMENTAL SETTING

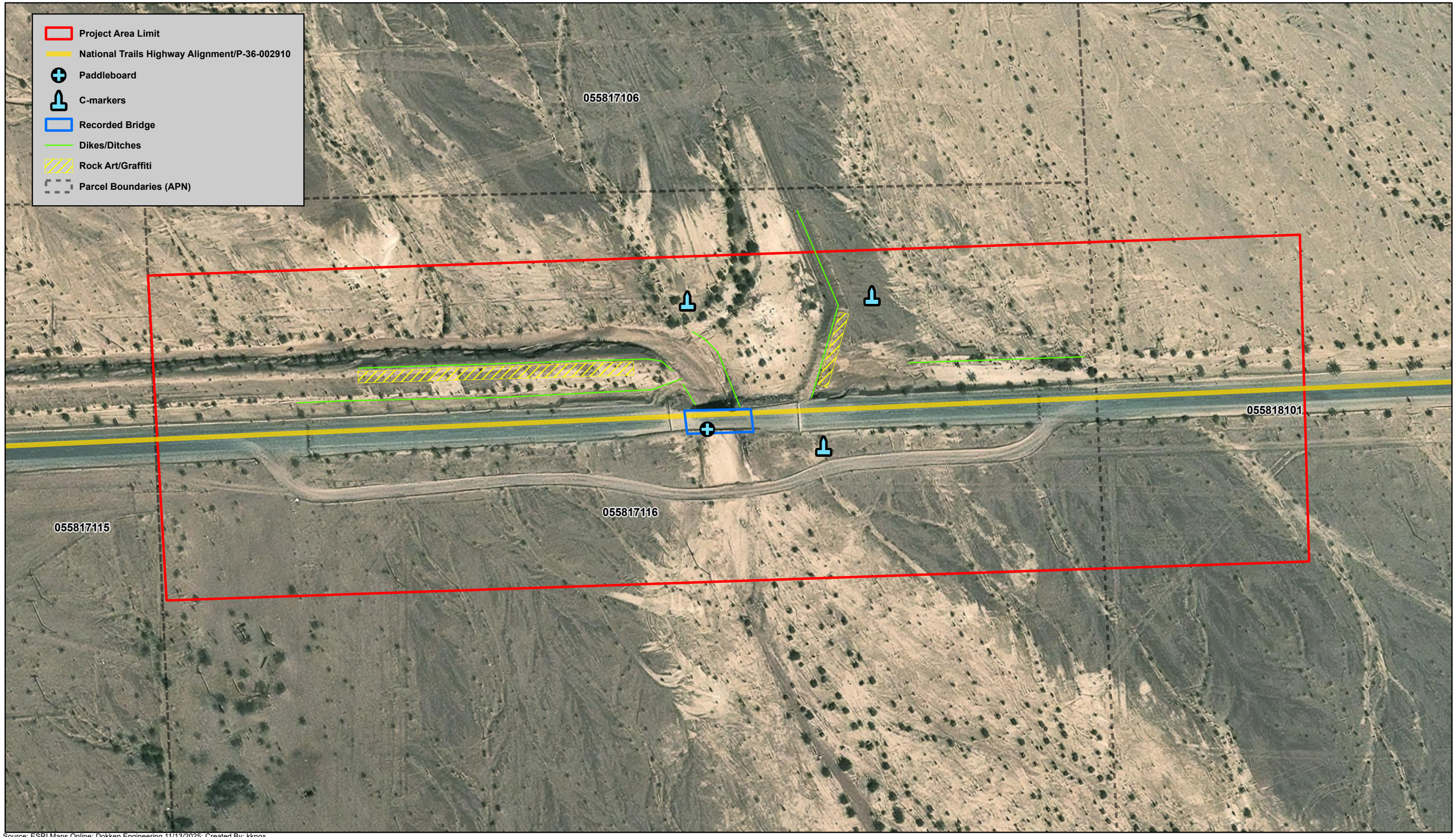
Project Area Limits (PAL)

The PAL for the Project includes the area needed for bridge replacement, staging, and access (**Figure 6. PAL**). The width of the PAL is limited to the County right-of-way (ROW), a 400-foot-wide roadway and maintenance easement held by the County within land owned by the Bureau of Land Management. The length of the PAL includes approximately 800 feet of roadway approach work. The PAL includes temporary construction staging, temporary construction easements, a temporary roadway detour, roadway approach work, flood control ditch/channel modification, potential utility relocation, and all associated grading activities. The PAL also includes additional area to account for any Project feature revisions. For any temporary construction easement required, the County will coordinate with each private property owner prior to construction. The PAL totals approximately 16.98 acres in size.

The vertical PAL encompasses the deepest ground disturbance and the full height of the replacement bridge. The deepest ground disturbance will total a maximum of 25 feet or less for the proposed abutment footings and between 35 and 50 feet below ground surface for the pier pile extensions. The height of the PAL amounts to approximately 14 feet above existing ground surface, which is approximately three feet higher than existing conditions, and includes the bridge deck, railing, and a slight raise in the roadway profile. As the proposed improvements are similar in use, appearance, and height to the existing conditions, there is limited potential for indirect effects beyond the defined PAL.

<u>Buried Archaeological Site Sensitivity</u>
The Project area is located within dissected fans at the base of small mountain ranges. Alluvial and colluvial material is deposited below these ranges, producing large fans drained by a series of rills, shallow gullies, and ephemeral channels at the foot of the mountains. Soils within the PAL are poorly sorted colluvium consisting of unconsolidated, rocks, gravel, and sand. While there are mountainous ranges and steep fans within a mile of the PAL, the topography of the PAL itself is relatively flat, gently sloping to the south and is not sufficiently situated for habitation nor seasonal food collection and processing but, rather, may have been suited for short-term camps. Most of the PAL is located on medial fans that have moderate sensitivity for buried resources. Pleistocene soils dominate the PAL, with only a minimal portion of Holocene soils present within the southeast corner. As human occupation of the area did not occur until the Holocene, the potential for sufficient soil accumulation that could bury indigenous cultural resources, is *low*.

In considering historical archaeological resources, the PAL includes the NTH roadway, a transportation corridor used extensively for decades. Historical refuse is assumed to have accumulated adjacent to this roadway as roadside disposal is common practice; however, subsurface features such as pits or privies are unlikely to have been placed adjacent to the transportation corridor and more likely occurs on parts of the parcels further from the roadway. Given the use of the transportation corridor as well as the desert environment discussion above, sensitivity for buried historic-era refuse within the PAL is *low*.



Source: ESRI Maps Online; Dokken Engineering 11/13/2025; Created By: kknox

1:1,500

0 200 400 Feet

Please note: The boundary of the California Historical Landmark No. 985, the Desert Training Center and California – Arizona Maneuver Area (DTC/C-AMA) encompasses the PAL but no components of the resource are within the PAL.

Figure 6
Project Area Limit

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

Sources Consulted
Background research was conducted to identify previous studies and recorded cultural resources within the PAL and a one-mile search radius around the PAL. The background research consisted of a record search through the California Historical Resources Information Center (CHRIS), literature and map reviews, and consultation with the Native American Heritage Commission (NAHC) and Native American groups. Available historic maps, aerial imagery, General Land Office (GLO) plat maps, geological deposit maps, and a review of soil compositions were also consulted (as discussed in the buried archaeological site sensitivity section).

Records Search

A record search for completed surveys and previously recorded resources within the PAL area and a one-mile radius was returned from the CHRIS' South Central Coastal Information Center (SCCIC), California State University, Fullerton in July 2025. The results of the SCCIC search indicate that 10 cultural resources studies have been conducted within one mile of the PAL, with none of these occurring within the PAL. The SCCIC also identified 19 previously documented cultural resources within the one-mile search radius. Seventeen of these resources are historic and two are indigenous. None are located within the Project area.

Additional previously recorded resources that were not returned in the SCCIC search results but which are present within the PAL include:

- A segment of National Old Trails Road/Route 66 (CA-SBR-2910H) (hereafter referred to as "NTH")
- Lamego Ditch Bridge (County Bridge No. 85), non-contributing element of the NTH;
- C-Markers (right-of-way boundary monuments), contributing element of the NTH;
- Late 1950s paddleboard, contributing element of the NTH;
- Flood control dikes/ditches, non-contributing element of the NTH;
- Post-1974 Rock Art/Graffiti, non-contributing element of the NTH;
- California Historical Landmark No. 985, the Desert Training Center and California – Arizona Maneuver Area (DTC/C-AMA)

These resources are discussed below.

NTH (CA-SBR-2910H)
In a concurrence letter dated November 25, 2014, the State Historic Preservation Officer (SHPO) concluded that the NTH (CA-SBR-2910H), alignment from Daggett to Mountain Springs Road was eligible for listing in the National Register under Criteria A and C as part of the contextual development of the NTH with a period of significance from 1926 to 1974. The NTH alignment is within the PAL as Lamego Ditch Bridge carries the alignment across an ephemeral ditch.

The original roadbed, as constructed during the period of time extending from 1929-1931, was earthen and very rough. A later improvement to the roadbed included a road-mix surface whereby local gravels were mixed at a batch-plant with oil to create a permanent surface. The original roadway surface exists almost intact beneath the present asphalt surface. The surface of today's travelled way has been altered several times. First, it was entirely repaved at some point prior to 1974 when the State of California turned-over maintenance responsibilities to the County of San Bernardino. Second, various sections have been repaved, chip-sealed, and/or fog-sealed at various times extending from 1974 to the present.

The present NTH alignment consists of an average paved roadway width (including paved shoulders) of up to 36 feet, and an average bridge width varying between 25-26 feet. The segment

of roadway within San Bernardino County at each bridge is often elevated to provide additional height or depth to the channel of the ditch or wash at each bridge. This is the case for the segment within the PAL. The raised roadbed allows for views of the surrounding desert landscape and of the timber wingwalls or abutments at many bridge locations. The character defining features of the roadway include the historic-period cross section, raised roadbed, presence of bridges and roadway features (C-Markers, Late 1950s Paddleboards, etc.) from the period of significance within the road corridor, and the rural desert landscape/setting. The character defining features of the NTH within the PAL include the roadway, three C-Markers, and one Late 1950s Paddleboard. Using the criteria matrix for ranking character-defining features (Caltrans Standard Environmental Reference, Volume 2, Exhibit 6.1 Ranking Character-Defining Features), the relative significance of these elements are as follows:

- "Most Significant" (strongly conveys sense of time and place)
    - Roadway
- "Significant" (conveys sense of time and place)
    - C-Markers
    - Late 1950s Paddleboards

Lamego Ditch Bridge (County Bridge No. 85)

Lamego Ditch Bridge is a timber trestle bridge originally constructed in 1930, redecked in 1953, and rebuilt sometime post 2000. This bridge was previously determined not to be eligible for listing on the National Register either individually or as a contributing element to the NTH as part of the 2014 SHPO concurrence letter. As the California Register utilizes similar criteria to the National Register criteria, Lamego Ditch Bridge is also not considered eligible for listing on the California Register due to the extensive modifications to the bridge which have altered its historic significance. For this reason, Lamego Ditch Bridge is not considered a historical resource.

C-Markers

The C-Marker is a concrete monument used by the Division of Highways to demark the edge of highway right-of-way. While C-Markers are a recognizable part of the NTH roadway, the markers were not unique to NTH right of way. The State Division of Highways used C-Markers throughout the state (Hatheway 2014). An alternative explanation is that markers are survey monuments, due to the nail/point in the center of the top of the marker. Regardless of either interpretation, the C-Markers are not structurally linked to the bridges. Because these markers represent boundaries, it is possible to have more than one C-Marker for each bridge. The C-Markers are not attached to the bridge structure, making it possible for highly modified, even entirely rebuilt bridges to feature C-Markers in the vicinity.

The historic use of C-Markers by the Division of Highways is spelled out in a blog about old U.S. 60, essentially the alignment of Interstate 10 through the Mojave Desert.

> A "C" block is a concrete right of way monument (marker) that was used by the California Division of Highways to mark its right of way along many old highways. These markers are found all along Chuckwalla Road; in most cases they were not removed when the road was decommissioned from the state highway system. According to Joel Windmiller (the California Highwayman), "C" blocks were placed along state routes from 1914 to 1934. The monuments are distinctive for the capital embossed "C" found on top of the monument. "C" blocks are projected about six inches above the surface of the ground.

C-Markers, in short, are characteristic features of state highways built in a period between 1914 and 1934, a period that includes construction of this stretch of the NTH. These markers were

placed at a fixed interval, indicating that it was accidental for these to appear at bridge sites (Southern California Regional Rocks and Roads). The C-Markers also exist at bridge sites where the original bridge no longer exists. This may be explained by the fact that the C-Markers relate to highway right of way and have little to no relationship to the bridges located nearby.

As part of a 2022 consultation with the SHPO, Caltrans previously evaluated and determined the C-Markers collectively to be eligible for listing on the National Register as a contributing element to the NTH. As the California Register utilizes similar criteria to the National Register criteria, the C-Markers are also considered eligible for listing on the California Register as a contributor to the NTH. For this reason, C-Markers along the NTH are collectively considered a historical resource. There are three C-Markers within the PAL.

Late 1950 Paddleboard

Paddleboards are metal mile marker signs installed in the late 1950s and early 1960s by the Division of Highways when this stretch of Route 66 was abandoned as a state highway and relinquished to San Bernardino County. Each paddleboard includes three pieces of information. It identifies the county location (San Bernardino County, shown as SBD), denotes the fact that I-40 replaces this stretch of highway (indicated by the number 40), and it indicates a postmile for Route 66. Modern paddleboards are often installed adjacent to the historic paddleboards.

As part of a 2022 consultation with the SHPO, Caltrans previously evaluated and determined the Late 1950s Paddleboards collectively to be eligible for listing on the National Register as a contributing element to the NTH. As the California Register utilizes similar criteria to the National Register criteria, the Late 1950s Paddleboards are also considered eligible for listing on the California Register as a contributor to the NTH. For this reason, Late 1950s Paddleboards along the NTH are collectively considered a historical resource. There is one Late 1950s Paddleboard in the PAL.

Flood Control Dikes/Ditches

When the California Division of Highways built this segment of NTH in the late 1920s and early 1930s, it made three decisions that would greatly increase maintenance costs for decades to come. These were highly unusual; most state bridges at the time included concrete flood control features (Caltrans 2017). First, it built nearly all bridges out of timber, an unusual construction decision in a state where most bridges were made of reinforced concrete. Second, the Division installed hundreds of small bridges and culverts along this segment of NTH, often with these bridges occurring only a few hundred feet from each other. Third, it made ephemeral erosion control features upstream from the bridges and culverts to channelize water through the bridge piers, hopefully avoiding damage to the slightly built timber structures.

All three developments were designed to save the new roadway from destruction by monsoonal rains, which fall in the winter in this otherwise arid environment. The dikes and ditches have been altered by repeated flooding events and maintenance of the channels and washes. This maintenance would often remove accumulated flood soils and deposit them on the existing dikes and ditches. This in turn widened and heightened the flood control features, significantly altering or completely obliterating their original design.

As part of a 2022 consultation with the SHPO, Caltrans previously evaluated and determined the dikes and ditches collectively to not be eligible for listing on the National Register as a contributing element to the NTH. As the California Register utilizes similar criteria to the National Register criteria, the dikes and ditches are not also considered eligible for listing on the California Register as a contributor to the NTH. For this reason, dikes and ditches along the NTH are collectively not considered historical resources.

Post-1974 Rock Art/Graffiti

As soon as the realigned and newly constructed roadway opened between Daggett and Mountain Springs Road during the period of time extending from 1929 to 1931, it is likely that automobile tourists began placing rock art graffiti on the slanted earthen dikes and drainage ditches lining the roadway alignment at select locations. No rock art graffiti from the 1920s, 1930s, 1940s, 1950s, or 1960s appears to be present along this segment of the NTH within San Bernardino County. This could be due to older rock art being repurposed by a stream of new tourists/artists. While there are some occurrences dating to the 1970s or 1980s, this time period is beyond the period of significance of the NTH (CA-SBR-2910H) and is therefore not considered to be a contributing element to the resource. Further, rock art graffiti is ubiquitous throughout the United States and does not offer any data potential, meaningful associations with people or events, and does not represent the work of a master artist. For these reasons, Caltrans previously determined that the post-1974 rock art/graffiti was not eligible for the National Register as part of the 2022 SHPO consultation. For this reason, the post-1974 rock art/graffiti present within the PAL is not a historical resource.

California Historical Landmark No. 985, the Desert Training Center and California – Arizona Maneuver Area (DTC/C-AMA)

The DTC/C-AMA, is a historic-period military training/maneuver area that is currently being documented as a historical cultural landscape composed of numerous site types (i.e., maneuver areas, divisional camps, small unit training areas, air facilities and crash sites, bivouacs, as well as hospital and medical features), features (i.e., anti-tank ditches, camouflage areas, foxholes, minefields, observation positions, obstacles, refuse scatter and dumps, reuse of existing facilities, roads, rock features, rock insignias or cairns, rock walls, slit trenches, tank tracks, and tank traps), and military and non-military artifacts. The DTC/C-AMA stretches from Indio, California eastward toward Prescott, Arizona and from Yuma, Arizona to Searchlight, Nevada and covers approximately 18,000 square miles. The DTC/C-AMA has not been evaluated for the National Register but has been registered and listed on the California Register. For this reason, the CTC/C-AMA is a historical resource.

Map Research

A review of historic aerial photography, historic USGS topographic maps, and the 1856 GLO map of Township 6 North Range 13 East was conducted. The 1856 GLO Survey depicts open desert with few features aside from mountain ranges. No features are shown within the Project area. The 1942 1:250,000 Amboy sheet depicts the Project area and surrounding area with the historic alignment of Route 66 as well as townsites along the route, including Amboy and Chambless. Additionally, the railroad, a road travelling south from modern Cadiz Road, and a dirt track leading north located west of the Project area (likely an early alignment of Kelbaker Road) are depicted. The dikes north of the roadway within the Project area are depicted by 1958. More recent historic aerials (1977, 1983) and topographic maps (1958, 1964, 1975) depict the current alignment of NTH. The Project area remains largely unchanged through the current day.

Native American Consultation

A request to search the Sacred Lands File (SLF) for any Native American cultural resources that might be affected by the Project was sent to the NAHC in November 2025. The NAHC responded that the results of the review were *negative*.

In April 2025, initial notification letters were mailed to the Twenty-Nine Palms Band and the Yuhaaviatam of San Manuel Nation (formerly San Manuel Band of Mission Indians). The

Yuhaaviatam of San Manuel Nation replied that they did not wish to consult on the Project. No response from the Twenty-Nine Palms Band of Mission Indians has been received.

Cultural Survey

An archaeological field survey was conducted on July 7, 2025 by Dokken Engineering archaeologists for the purposes of identifying and recording archaeological resources. The surface survey was conducted via controlled transects spaced at no greater than 15-meter (45 foot) intervals within the entire PAL. Special attention was paid to all observed surface exposures, cut banks, and the flood control ditch berms which were visually inspected for the presence of archaeological materials, including indigenous and historic artifacts, features and/or anthropogenic soils.

No indigenous or historic archaeological cultural resources were identified. Non-archaeological resources present within the PAL include:

- A segment of the NTH (P-36-002910/CA-SBD-2910H) (historical resource)
- Three (3) C-Markers, NTH contributing element (historical resource)
- One (1) Late 1950s paddleboard, NTH contributing element (historical resource)
- Lamego Ditch Bridge (County #85, State #54C0289), NTH non-contributing element (not a historical resource)
- Flood control ditches/dikes, NTH non-contributing element (not a historical resource)
- Rock art/graffiti, NTH non-contributing element (not a historical resource)

As noted previously, the recorded boundary of California Historical Landmark No. 985, the Desert Training Center and California – Arizona Maneuver Area (DTC/C-AMA) (historical resource), encompasses the entire PAL; however, there are no resources associated with the DTC/C-AMA identified within the PAL.

DISCUSSION OF IMPACTS

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Less than Significant with Mitigation. As noted previously, the following historical resources are located within the PAL:

- A segment of the NTH (P-36-002910/CA-SBD-2910H) (historical resource)
- Three (3) C-Markers, NTH contributing element (historical resource)
- One (1) Late 1950s paddleboard, NTH contributing element (historical resource)

As discussed in the environmental setting section, the Lamego Ditch Bridge, the dikes and ditches, and the post-1974 rock art/graffiti are not historical resources, as defined under CEQA.

NTH (CA-SBR-2910H) and Contributing Elements
The Project would demolish and replace up to 800 feet of the NTH/Route 66 roadway at the bridge approach, including “feathering” or tapering the roadway to meet the wider new bridge. No physical alterations to the C-Markers or the Late 1950s Paddleboard are proposed as part of the Project; however, to ensure the C-Markers and paddleboard are not inadvertently damaged during construction, mitigation measures **CUL-3** and **CUL-4** are proposed which involves temporarily removing both resource types prior to

construction, storing them, and reinstalling them after construction has been completed. **CUL-4** also includes restoration of the paddleboard. Reinstalling the C-Markers and the paddleboard to their original location will maintain the integrity of these elements. Further, the overall setting in relation to the NTH will be almost completely unaffected. The integrity of design, materials, and workmanship will not be diminished. The integrity of feeling and associations will not be diminished. Implementation of these measures would reduce impacts to the NTH and its contributing elements, three C-Markers and one Late 1950s Paddleboard to a *less than significant level with mitigation*.

DTC/C-AMA
The recorded boundary of the DTC/C-AMA stretches from Indio, California eastward toward Prescott, Arizona and from Yuma, Arizona to Searchlight, Nevada and covers approximately 18,000 square miles. While the DTC/C-AMA boundary encompasses the entire PAL, there are no associated features or artifacts identified within the PAL. The Project would not demolish or materially alter any component of the historical resource. Further, the Project would not indirectly impact the historic setting of the DTC/C-AMA as it involves replacement of an existing bridge and roadway, both of which pre-date the historical resource's period of significance. Therefore, the Project would not result in any significant impacts to this historical resource.

In summary, implementation of measures **CUL-3** and **CUL-4** would reduce Project impacts to less than significant level.

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

Less than Significant with Mitigation. In an effort to identify archaeological resources that might be affected by project activities, pedestrian surveys, background research, and consultations with organizations and individuals were conducted. A review of local geological formations, relevant landforms, soils, and spatial context, combined with the mild to moderate ground disturbances from transportation activities, suggest that the PAL has a low potential for both indigenous and historic surface archaeological and buried archaeological sites. The pedestrian survey and map research confirmed that the PAL has been subject to extensive disturbance associated with infrastructure construction and maintenance. While several isolated occurrences of historic-era refuse were noted, these isolated artifacts are not considered an archaeological site.

While there were no archaeological sites identified within the PAL and the potential for buried archaeological sites to be present within the PAL is low, there is always the possibility that buried archaeological resources or unknown human remains may be encountered during project construction. With the implementation of avoidance/minimization measures **CUL-1** through **CUL-2**, impacts to archaeological resources and human remains would be *less than significant with implementation of mitigation measures*.

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

Less than Significant with Mitigation. While there were no archaeological sites identified within the PAL and the potential for buried archaeological sites to be present within the PAL is low, there is always the possibility that buried archaeological resources or unknown human remains may be encountered during project construction. With the

implementation of avoidance/minimization measures **CUL-1** through **CUL-2**, impacts to archaeological resources and human remains would be *less than significant with implementation of mitigation measures*.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

CUL-1: If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. If Native American cultural resources are identified, the County shall contact local Native American Tribes to provide them the opportunity to review the discovery and provide recommendations as to significance and treatment.

CUL-2: If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the NAHC, who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). Further provisions of PRC 5097.98 are to be followed as applicable.

CUL-3: C-Marker Treatment:
The Cultural Resource Specialist will review the Project's Plans, Specifications, and Estimates (PS&E) and Mitigation Monitoring Report Program/Environmental Commitment Record to ensure that the protective measures below are included in the Project's Plans and Contract Special Provisions as necessary to ensure their enforcement.

The Cultural Resource Specialist will attend the pre-construction meeting for the project to provide a sensitivity training and to inform the Project Contractor of the nature of the historical resources in the PAL and their protective measures.

The Cultural Resource Specialist will conduct a pre-construction field visit to photo-document the existing conditions of the work area prior to the initial construction activity for the Project. The Cultural Resource Specialist will photograph each C-Marker and will document its existing conditions.

Prior to earthmoving work or demolition, the Contractor with oversight from the Cultural Resource Specialist, will remove each C-Marker (via hand tools and/or mechanically levered with straps). The C-Markers will be given a temporary identification tag with its bridge number/name location and GPS reading, wrapped in protective materials (such as blankets, bubble wrap, or other materials to be determined by the County, Cultural Resource Specialist, and Contractor), stored in a safe and secure area away from weather and elements.

After construction activities are completed at the C-Marker's specific bridge location, the Contractor will reinstall the C-Marker per the Project's plans in the same location, utilizing hand tools and/or mechanical tools. Each C-Marker will be installed within one foot of the monument above ground level. The Cultural Resource Specialist will review the reinstallation either in person or via photographs to ensure correct placement. Photo-documentation will be prepared to be included in a monitoring report.

The Cultural Resource Specialist will prepare a monitoring report documenting compliance with the above steps.

CUL-4: Late 1950s Paddleboard Treatment:

The Cultural Resource Specialist will review the Project's Plans, Specifications, and Estimates (PS&E) and Environmental Commitment Record to ensure that the protective /rehabilitation measures below are included in the Project's Plans and Contract Special Provisions as necessary to ensure their enforcement.

The Cultural Resource Specialist will attend the pre-construction meeting for the project to provide a sensitivity training and to inform the Project Contractor of the nature of the historical resources in the PAL and their protective measures.

The Cultural Resource Specialist will conduct a pre-construction field visit to photo-document the existing conditions of the work area prior to the initial construction activity for the Project. The Cultural Resource Specialist will photograph the late 1950s Paddleboard (and its metal post) and will document its existing conditions.

Prior to earthmoving work or demolition, the Contractor with oversight from the Cultural Resource Specialist, will remove the late 1950s Paddleboard (via hand tools only). The paddleboard will be given a temporary identification tag with its bridge number/name location and GPS reading, wrapped in protective materials (such as blankets, bubble wrap, or other materials to be determined by the County, Cultural Resource Specialist, and Contractor), stored in a safe and secure area away from weather and elements until it is provided to a paint shop for repainting.

The Contractor, in consultation with the Cultural Resource Specialist, will send the Paddleboard in its protective materials to a paint shop that has been determined to have sufficient experience dealing with historic materials to repaint the Paddleboard. The Cultural Resource Specialist will also provide paint specifications, determined during the County's 10 Bridges Project mitigation implementation, in order to match the original paint in color, design, and information.

The Cultural Resource Specialist will ensure constancy of the paddleboard repainting with the previous projects.

Once repainted, and after construction activities are completed at the Paddleboard's specific bridge location, the Contractor will reinstall the Paddleboard per the Project's plans, utilizing hand tools only.

The Cultural Resource Specialist will review the reinstallation either in person or via photographs to ensure correct placement. Photo-documentation will be prepared to be included in a monitoring report.

The Cultural Resource Specialist will prepare a monitoring report documenting compliance with the above steps.

VI. ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

According to the *County Policy Plan*, historically, energy has been generated by burning fossil fuels such as coal, oil, and natural gas. The County has identified natural gas as contributing to nearly three quarters of the County's energy production (County 2020). As fossil fuel supplies have substantially reduced, renewable energy (RE) sources have become a crucial part of the County's planning process. RE technologies capture energy from ongoing natural sources such as solar radiation, wind, tides, waves, rivers, biological processes, and geothermal heat. San Bernardino County has abundant RE resources with the potential to generate substantial energy (County 2020).

DISCUSSION OF IMPACTS

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

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

Less than Significant. The Project would use a minimal amount of energy during construction activities, such as excavation, road cut and fill, demolition, and other construction-related activities. Construction-related effects on energy would likely be greatest during the site preparation phase because of energy use associated with the excavation, handling, and transport of soils and construction debris to and from the site. However, these construction activities would be short-term in duration, and, therefore, would not result in wasteful, inefficient, or unnecessary consumption of energy resources during project construction. During project operation, the Project would accommodate existing traffic demand and would not create new traffic demand. As such, the operation of the Project would not result in a wasteful, inefficient, or unnecessary consumption of energy resources. Further, as the Project would replace an existing bridge, it would not be in conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

VII. GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

REGULATORY SETTING

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the CEQA.

ENVIRONMENTAL SETTING

Physiography and Topography
The Project area is located in the Mojave Desert geomorphic province in southern California. The Mojave Desert geomorphic province of California is a wedge-shaped region bounded by the Garlock fault on the north, the San Andreas fault on the southwest, and the Nevada state line on the east. The Mojave Desert includes isolated mountain ranges, separated by expanses of desert plains, and broad playas. Most of the area is undeveloped open desert terrain with extensive soil and rock exposures and sparse vegetation. Elevations in the Mojave Desert generally range between about 1,000 and 6,000 feet above mean sea level (msl).

Faulting
The Mojave Desert is a seismically active area and may experience ground motion from regional earthquakes. However, there are no mapped active faults crossing within 1,000 feet of the bridge and the bridge is not located within an Alquist-Priolo Earthquake fault zone as defined by the California Geologic Survey.

Seismicity
The Project area is in seismically active southern California, and the local area has historically experienced shaking from major earthquakes, which is approximately the last 150 years. Most earthquakes in the eastern Mojave Desert region occur in proximity to the major faults associated with the Eastern California Shear Zone (ECSZ). Major historical earthquakes include the 1999 Hector Mine, 1992 Landers, 1992 Big Bear Lake, 1947 Manix, and 1916 Death Valley earthquakes.

Soils Report
A Natural Resources Conservation Service (NRCS) custom soils report was obtained through the NRCS' web site. The NRCS report states that no digital data is available for the study area. Soils within the BSA were characterized during the field survey as poorly sorted colluvium consisting of unconsolidated rocks, gravel, and sand. While there are rocky mountainous ranges just north of the Project area, the topography of the BSA itself is relatively flat, gently sloping to the southeast. The elevation of the Project area ranges from approximately 745 feet above mean sea level near the southeast corner of the Project area to 760 feet above mean sea level near the northwest corner of the Project area.

DISCUSSION OF IMPACTS

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?**

Less than Significant. The Project site is not within areas that are susceptible to liquefaction or landslide risk. Furthermore, the bridge replacement is not anticipated to adversely affect geologic or topographic conditions or be affected by fault rupture within the Project limits. The bridge replacement would be designed to meet Caltrans seismic design standards to minimize

geologic and seismic hazards. No structures would be constructed that would increase the current risk of loss, injury, or death as a result of ground shaking or seismically induced effects. The proposed Project would not increase the risk of exposing people or structures to potential adverse effects because of seismic activities or seismic-related ground failure beyond existing conditions. Therefore, impacts would be less than significant.

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

Less than Significant with Mitigation. Construction of the proposed Project would cause disturbances to the ground surface from earthwork, including excavating and grading, which would result in a potential for soil erosion. Potential impacts to soils would be minimized through soil stabilization measures covered within the required Construction General Permit and implementation of the SWPPP as discussed in Section 2.4 Required Project Approvals and Section X. Hydrology and Water Quality. Erosion control practices outlined in a SWPPP would reduce any potential impacts of the Project to a less than significant level. In addition, measure **BIO-1** discussed in the Biological Resources section of this document would further reduce impacts to erosion of soil to less than significant with mitigation.

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

Less than Significant Impact. Refer to response to question **a)**. The Project will not be located on soil that is known to be unstable or would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. As such, there is limited potential for the risk of surface rupture and strong seismic ground shaking that would cause landslides, lateral spreading, subsidence, liquefaction, or collapse; thus, the Project will have a less than significant impact.

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

Less than Significant Impact. Refer to response to questions **a)** and **b)**. The Project will not be located on expansive soils creating substantial risks to life or property. As there are no nearby active faults and no expansive soils present, there is limited potential for the Project to create substantial risks to life or property; thus, the Project would have a less than significant impact.

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

No Impact. The Project will not utilize septic tanks or an alternative wastewater disposal system on the site. Therefore, the Project would have no impact due to soils incapable of adequately supporting septic systems.

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

Less than Significant with Mitigation. A Paleontological Inventory Report was prepared for the proposed Project (Cogstone 2025). The report found the Project area to be underlain by alluvial fan sediments that typically do not yield fossils. Due to the arid nature of the region, the location of all the bridge on an alluvial fan, the lack of potential for burial, and observations during the field survey, the soils within the Project area are assigned a low sensitivity for paleontological resources. If unanticipated discoveries of paleontological resources occur during construction, measure **PAL-1** includes the standard best management practice to halt all work within 50 feet of the discovery until the find has been evaluated by a qualified paleontologist. Implementation of **PAL-1** would result in a less than significant impact within mitigation incorporated.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

BIO-1: Best Management Practices (BMPs):

- Disturbed soils would be covered by loose bulk materials or other materials (like waddles) to reduce erosion and runoff during rainfall events.
- Disturbed soils would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities.
- All concrete curing activities would be conducted to minimize spray drift and prevent curing compounds from entering the waterway directly or indirectly.
- All construction materials, vehicles, stockpiles, and staging areas would be situated outside of ephemeral ditches as feasible. All stockpiles would be covered, as feasible.
- All erosion control measures and storm water control measures would be properly maintained until final grading has been completed and permanent erosion control measures have been implemented.
- All disturbed areas would be restored to pre-construction contours so that hydrologic function of the ephemeral ditches is not permanently impacted.

PAL-1: If unanticipated discoveries of paleontological resources occur during construction, all work within 50 feet of the discovery should be halted until the find has been evaluated by a qualified paleontologist.

VIII. GREENHOUSE GAS EMISSIONS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

REGULATORY SETTING

Federal and State

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of GHG related to human activity that include CO_2, CH_4, NOX, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order to enact the standards California needed a waiver from the EPA. The waiver was denied by the EPA in December 2007 and efforts to overturn the decision had been unsuccessful. See California v. Environmental Protection Agency, 9th Cir. Jul. 25, 2008, No. 08-70011. On January 26, 2009, it was announced that EPA would reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks which will take effect in 2012. On June 30, 2009 EPA granted California the waiver. U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts* v. *EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions.

U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010[1] and significantly increased the fuel economy of all new passenger cars and light trucks sold in the United States. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. In August 2012, the federal government adopted the second rule that

[1]] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq

increases fuel economy for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 and beyond to average fuel economy of 54.5 miles per gallon by 2025. Because NHTSA cannot set standards beyond model year 2021 due to statutory obligations and the rules' long timeframe, a mid-term evaluation is included in the rule. The Mid-Term Evaluation is the overarching process by which NHTSA, EPA, and ARB will decide on CAFE and GHG emissions standard stringency for model years 2022–2025. NHTSA has not formally adopted standards for model years 2022 through 2025. However, the EPA finalized its mid-term review in January 2017, affirming that the target fleet average of at least 54.5 miles per gallon by 2025 was appropriate. In March 2017, President Trump ordered EPA to reopen the review and reconsider the mileage target.[2]

NHTSA and EPA issued a Final Rule for "Phase 2" for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO_2 emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

Presidential Executive Order 13783, *Promoting Energy Independence and Economic Growth*, of March 28, 2017, orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of GHGs." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

Senate Bill 32 (SB-32) is a California Senate bill expanding upon AB-32 to reduce GHG emissions. SB-32 requires that there be a reduction in GHG emissions to 40% below the 1990 levels by 2030. SB-32 was contingent on the passing of Assembly Bill 197, which increased legislative oversight of CARB and is intended to ensure CARB must report to the legislature. AB-197 was signed into law on September 8, 2016.

With Executive Order S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

According to Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents (March 5, 2007), an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(i)(1) and 15130. To make this determination the incremental impacts of the Project must be compared with the effects of past, current, and probable future projects. To gather sufficient

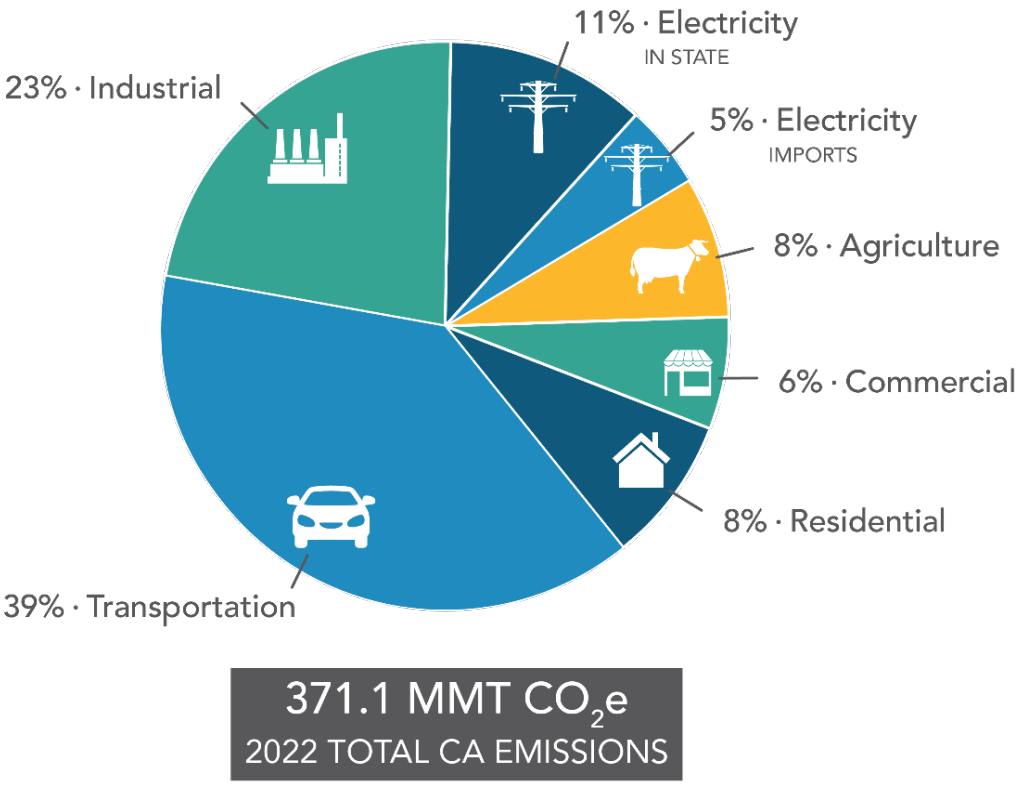
[2] http://www.nbcnews.com/business/autos/trump-rolls-back-obama-era-fuel-economy-standards-n734256 and https://www.federalregister.gov/documents/2017/03/22/2017-05316/notice-of-intention-to-reconsider-the-final-determination-of-the-mid-term-evaluation-of-greenhouse

information on a global scale of all past, current, and future projects to make this determination is a difficult if not impossible task.

CARB 2022 Climate Change Scoping Plan

As part of its supporting documentation for the 2022 Scoping Plan for Achieving Carbon Neutrality, CARB released an updated version of the GHG inventory for California (December 14, 2023). **Figure 7. California Greenhouse Gas Inventory** is a graph from that update that shows the total GHG emissions for California for 2021.

Figure 7. California Greenhouse Gas Inventory



(Taken from: https://ww2.arb.ca.gov/ghg-inventory-data)

Local

San Bernardino County Regional Greenhouse Gas Reduction Plan (2021)

In response to AB 32, a project partnership, led by SBCTA, has compiled an inventory of GHG emissions and developed reduction measures that could be adopted by the 25 Partnership Jurisdictions of San Bernardino County. The regional GHG reduction plan serves as the baseline for cities in the County to develop a more detailed community level climate action plan (CAP).

San Bernardino County Policy Plan (2022)

The policy of Goal NR-1 Air Quality related to GHG described below is excerpted from San Bernardino County Policy Plan – Natural Resources chapter (County 2022).

Policy NR-1.7 greenhouse gas reduction targets – We strive to meet the 2040 and 2050 greenhouse gas emission reduction targets in accordance with state law.

ENVIRONMENTAL SETTING

The term GHG is used to describe atmospheric gases that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. These gases include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and water vapor, among others. A growing body of research attributes long-term changes in temperature, precipitation, and other elements of Earth's climate to large increases in GHG emissions since the mid-nineteenth century, particularly from human activity related to fossil fuel combustion. Anthropogenic GHG emissions of particular interest include CO2, CH4, N2O, and fluorinated gases.

GHGs differ in how much heat each traps in the atmosphere (global warming potential, or GWP). CO2 is the most important GHG, so amounts of other gases are expressed relative to CO2, using a metric called "carbon dioxide equivalent" (CO2e). The global warming potential of CO2 is assigned a value of 1, and the warming potential of other gases is assessed as multiples of CO2. For example, the 2007 International Panel on Climate Change Fourth Assessment Report calculates the GWP of CH4 as 25 and the GWP of N2O as 298, over a 100-year time horizon. Generally, estimates of all GHGs are summed to obtain total emissions for a project or given time period, usually expressed in metric tons (MTCO2e), or million metric tons (MMTCO2e).

As evidence has mounted for the relationship of climate changes to rising GHGs, federal and state governments have established numerous policies and goals targeted to improving energy efficiency and fuel economy, and reducing GHG emissions. Nationally, electricity generation is the largest source of GHG emissions, followed by transportation. In California, however, transportation is the largest contributor to GHGs.

DISCUSSION OF IMPACTS

a) **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?; and**
b) **Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

Less than Significant. Construction of the proposed Project would generate negligible GHG emissions over the 4-month construction period. As the Project would result in the replacement of one bridge with no change in road alignment or roadway capacity, there would be no impact to long-term operation GHG emissions. Therefore, the proposed Project would not result in a significant conflict with the GHG reduction targets set by the County of San Bernardino Greenhouse Gas Emissions Reduction Plan (County 2021).

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

None.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

REGULATORY SETTING

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use.

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976, and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during Project construction.

ENVIRONMENTAL SETTING

The environmental setting and discussion below are derived from the Hazardous Waste Initial Site Assessment (ISA) Memorandum (Dokken 2025c), which is attached to this Initial Study as Appendix C. The purpose of an ISA is to evaluate the Subject Properties for the presence of Recognized Environmental Conditions (RECs) and/or Activity and Use Limitations (AULs), which are:

REC: "...the presence or the likely presence of any hazardous substances or petroleum hydrocarbons on the (Subject Property) that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum hydrocarbons into structures or into the ground, groundwater, or surface water of the subject property."

AUL: "...legal or physical restrictions or limitations on the use of, or access to, a site or facility: 1) to reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil or ground water on the property, or 2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment."

Recommendations given in the ISA memorandum, relative to the potential for hazardous materials to exist within the Project area, are based upon the information derived from the site reconnaissance conducted on July 7, 2025, and from record and literature sources described. Certain indicators of the presence of hazardous materials not readily observable during the reconnaissance may become observable at a later date. Readily available public information sources were reviewed as providing complete and accurate information, without independent verification (Dokken 2025c).

Records Review

Land uses in proximity to the Subject Properties were reviewed for potential sources of hazardous waste contamination. Land uses adjacent to the Subject Properties are zoned as Resource Conservation and are currently vacant. No industrial or agricultural land uses are within one-mile of the Subject Properties that were identified as potential sources of contamination.

A review of the California State Water Resources Control Board's GeoTracker Database on October 3, 2025 indicated that there are no sites within proximity to the proposed Project. A review of DTSC's EnviroStor database on September 15, 2025, which tracks cleanup, permitting, enforcement and investigation efforts at hazardous waste facilities, found no records of past or current contamination within one mile of the Project. Therefore, no further discussion of known contamination sites is warranted.

Naturally Occurring Asbestos (NOA) can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped within or in the near vicinity of the Project area.

Historic Aerials

Dokken obtained the historic aerials from the U.S. Geological Survey's EarthExplorer website in the single frame aerial collection: 1947, 1948, 1954, 1975, 1977, 1978, and 1981. The aerials are at different scales and resolutions. The 1995 image is a digital ortho-quadrangle (DOQ). The color images from 2003 to present are part of the National Agriculture Imagery Program (NAIP) program. The aerials show a slow progression of low density rural development in the community of Chambless.

The 1947 aerial shows a cluster of buildings on the southwest corner of NTH and Cadiz Road, approximately 1.4-miles east of the Subject Properties. The 1948 and 1954 aerials look similar to the 1947 aerial photo. The 1975 aerial is of a low resolution. On the adjacent parcel southwest of the bridge, there is an indication that construction activity associated with the Road Runner's Retreat has started or is complete. The 1977 aerial photograph shows at least two buildings and several rows of trees associated with the Road Runner's Retreat. The 1977 aerial shows at least one structure and a linear shadow in a north/south orientation located on the same assessor's parcel as the bridge. The structure is approximately 0.14-miles southwest of the bridge. The 1995 aerial photograph is a higher resolution than the 1978 and 1981 aerials. Two buildings, or possibly recreational vehicles, are visible. The 2003 image shows indications of fire that destroyed the structures and the vegetation. The 2005, 2009, 2012, 2014, 2019, and 2023 show no structures, some debris, and at least one power pole. Images from GoogleEarth StreetView circa November 2007 show several vertical pole-like structures, two of which appear to be dead palm trees with a few fronds in the vicinity of the buildings visible on the 1995 aerial.

Power lines parallel the NTH approximately 190-feet south of the NTH. The first aerial image where the shadows of the poles are clearly visible is from 2012. No transformers were observed on the power lines on the Subject Properties.

Historic Topographic Maps

The 15-minute Cadiz topographic map dated 1956 (1958 edition) shows the NTH and "dikes" on the Subject Properties. East of the bridge, buildings, dirt roads, and a water tank are located around Chambless. The 1985 edition of the 7.5-minute Cadiz topographic map dated 1985 shows additional development in Chambless, several buildings southwest of the bridge, and uses the term "levee" instead of "dike" for the berms on the north side of NTH. The 2012 and subsequent maps lack buildings, other structures such as wells, and prior disturbance such as borrow pits and dikes.

Related Studies

The County has prepared Initial Site Assessments (ISA) for other NTH bridge replacement projects. The ISAs are relevant to the Project as the NTH timber bridges, including Bridge 85 Lamego Ditch, were constructed in 1930, are comprised of the same components and material, and went through major rehabilitations, including redecking, during similar time periods.

The County replaced the Dola Ditch and Lanzit Ditch bridges, which are 2.11 miles and 1.43 miles west of the Lamego Ditch bridge Subject Properties, respectively. Hazardous materials sampling was performed on the bridges. The two bridges were tested for aerially deposited lead (ADL) and chromium in 2017 (see Appendix C). Less than 50 parts per million (ppm) for lead and chromium were found. Therefore, due to the low ppm, ADL is not a concern for any of the bridges along the County's segment of the NTH.

The *Asbestos and Lead-Based Paint Survey Report, Lanzit Ditch Bridge* prepared by TetraTech in 2015 identified no asbestos containing material (ACM) within the bridge components including

vibration dampers and concrete form wrap based on six samples collected and submitted for laboratory analysis (see Appendix C). Therefore, it is presumed that the other timber bridges along the County's segment of the NTH contain no ACM and Phase II investigations are not necessary. The lead-based paint (LBP) sampling at the Lanzit Ditch bridge identified LBP in several of the bridge components, including the bridge barriers; therefore, LBP is assumed present for Bridge 85. Contractors will be directed to handle painted surfaces accordingly.

San Bernardino County's NTH at 10 Bridges Project prepared an ISA for ten timber bridges, one of which is approximately 3.09 miles west of the Project. In 2022, Caltrans reviewed and concurred with the recommendations of the ISA that no further ACM, ADL, or Phase II analyses were needed. The contractor would be directed to handle potential LBP and treated wood members per Caltrans Standard Special Provisions and Department of Toxic and Substances Control (DTSC) regulations, as applicable.

Treated wood along bridge deck barriers and supports underneath each bridge, and utility poles, likely contain chemicals, e.g., creosote, which pose a risk to human health and the environment and must be handled in accordance with CCR, Title 22, Division 4.5 implemented by the Department of Toxic Substances Control (DTSC). Section 14-11.14 provides guidelines on handling, storing, transporting, and disposing of Treated Wood Waste (TWW). The County follows the regulations adopted by DTSC regarding TWW, which may be handled as a regulated solid waste and disposed of in a State Water Resources Control Board certified solid waste landfill.

Reconnaissance of the Subject Property and Vicinity

Dokken conducted site reconnaissance on July 7, 2025 (see Appendix C for photos of site). Visual observations for the roadway were recorded. The weather was clear skies and dry conditions, which did not limit the observations of potential REC's. The Subject Property evaluated as part of the site reconnaissance for the bridge replacement and temporary detour was limited to the extents of the Project limits which are 1,620-feet long by 455-feet wide centered on the bridge. The site reconnaissance confirmed a graded access road paralleling the NTH to the south and the storm drainage levees on the north side of the NTH.

Yellow thermoplastic paint was observed in the centerline striping of the roadway; white striping was observed to mark the fog line on roadway. White paint was observed on the posts and guardrails on the bridge and along the approaches. The bridge is of timber construction. Multiple wood components of the bridge are treated wood. Power poles that parallel NTH are inside the Subject Property limits.

Photos taken during the site reconnaissance confirm the presence of power poles associated with the former structures southwest of the bridge, trunks of two dead palm trees without any fronds, debris, and a rusting, metal cylinder that may be a water tank associated with a well. These items are outside of the Subject Properties.

The Project would occur within previously disturbed areas along a rural road corridor. There were no indications of unusual staining on the ground surface. There were no above ground storage tanks (ASTs) or storage sites, or structures that would be used for chemicals or other hazardous materials within the Subject Properties. There were no indications of improper storage of chemicals or observable indications of previous storage areas on-site. There was no indication of past manufacturing or industrial uses. Construction would not require the removal of any buildings or structures besides the bridge.

Potential Waste Generated by the Project

The Project has the potential to generate waste as a result of the demolition of the existing bridge and the construction of the bridge replacement. Wastes anticipated to be generated by the Project include treated wood from the existing timber bridge, old metal beam guardrails, treated wood guardrail posts, and any wooden guardrail post that is being updated to metal beam guardrail. No impacts to treated wood power poles are anticipated. The TWW should be handled and disposed of according to County and Caltrans guidelines.

Yellow thermoplastic striping was observed during the site reconnaissance. Painted wood and guardrails were observed. During the construction, the Contractor will comply with Section 14-11.12 of the Caltrans standard specification, and waste should be handled and disposed of according to County and Caltrans guidelines.

Soil sampling for ADL has been previously conducted along similar stretches of NTH. ADL and chromium soil sampling results concluded the soils would not require special handling or be characterized as hazardous waste based on lead content being within the range of naturally occurring background levels (Appendix C). As concentrations were identified to be below all applicable human health screening and waste characterization criteria for these nearby projects with similar historical volumes, a Phase II ISA or a Limited Site Investigation is not required to evaluate for the presence of ADL in the proposed work areas.
Recognized Environmental Conditions (RECs)

Based on the governmental records search, aerial photographs, topographic map review, and a visual site assessment, this assessment has revealed no RECs associated with the Subject Properties.

Yellow thermoplastic striping

Potential lead and heavy metals associated with pavement striping. Implementation of improvements may require the removal and disposal of yellow traffic stripe and pavement marking materials (paint, thermoplastic, permanent tape, and temporary tape). Yellow paints made prior to 1995 may exceed hazardous waste criteria under Title 22, California Code of Regulations, and require disposal in a Class I disposal site. The Contractor shall comply with the County of San Bernardino and Caltrans Standard Specifications and Standard Special Provisions, as applicable.

Lead Paint

There is potentially LBP on the wood elements of the bridge and on the metal railings that make up the bridge barriers. Structures constructed prior to 1978 are presumed to contain LBP unless proven otherwise. Structures constructed after 1978 may also contain LBP. The Contractor shall comply with the County of San Bernardino and Caltrans Standard Specifications and Standard Special Provisions, as applicable.

Chemically Treated Wood

Treated wood along bridge deck barriers and supports underneath each bridge, and wood utility poles, likely contain chemicals, e.g., creosote, which pose a risk to human health and the environment and must be handled in accordance with CCR, Title 22, Division 4.5 implemented by the Department of Toxic Substances Control (DTSC). Section 14-11.14 provides guidelines on handling, storing, transporting, and disposing of TWW. Caltrans follows the regulations adopted by DTSC regarding TWW, which may be handled as a regulated solid waste and disposed of in

a State Water Resources Control Board certified solid waste landfill. Treated wood also includes wood utility poles.

DISCUSSION OF IMPACTS

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

Less than Significant with Mitigation. Based on the October 2025 Hazardous Waste ISA Memorandum prepared for this Project, the following hazardous materials shown in **Table 4** below were observed to occur within the Project boundaries:

Table 4. Hazardous Materials

Location	Description of Evidence Found	Description of Associated AUL	Risk to Project
Striping to be removed within project boundaries along the NTH.	Potential lead and heavy metals associated with pavement striping. Implementation of improvements may require the removal and disposal of yellow traffic stripe and pavement marking materials (paint, thermoplastic, permanent tape, and temporary tape). Yellow paints made prior to 1995 may exceed hazardous waste criteria under Title 22, California Code of Regulations, and require disposal in a Class I disposal site.	Striping present on each bridge	Low
Supports under the bridge along the NTH proposed to be removed.	Wood timbers in the barriers and supporting the existing bridge. Potential treated wood waste should be managed in accordance with standards under Title 22, CA Code of Regulations Division 4.5 Chapter 34.	Treated timbers bridge supports and barriers	Low
Barriers on the bridge along the NTH proposed to be removed.	Potentially lead-based paint on the wood timbers and on the railings that make up the bridge barriers. Structures constructed prior to 1978 are presumed to contain lead-based paint unless proven otherwise. However, structures constructed after 1978 may also contain lead-based paints.	Wood and metal railings that make bridge barriers	Low

Temporary construction activity associated with the proposed bridge replacement may result in the disturbance and/or release of these hazardous materials, if present. Measures **HAZ-1** through **HAZ-4** would ensure the proper handling, storage, transportation, and disposal of any hazardous impacts would occur prior to construction. Therefore, impacts would be less than significant with mitigation incorporated.

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

No Impact. There are no existing or proposed schools within one-quarter mile of any of the proposed bridge replacement sites. There would be 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?

No Impact. A review of the California State Water Resources Control Board's GeoTracker Database on October 3, 2025 indicated that there are no sites within proximity to the proposed Project. A review of DTSC's EnviroStor database on September 15, 2025, which tracks cleanup, permitting, enforcement and investigation efforts at hazardous waste facilities, found no records of past or current contamination within one mile of the Project. As there are no open/active cases of hazardous waste remediation within the Project are the Project does not have potential to encounter hazardous wastes associated with the listings on the known hazardous substance sites. Therefore, the Project would have no impact.

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?

No Impact. The Project is not located within an airport land use plan or within two miles of a public airport or public use airport; therefore, the Project would not result in a safety hazard or excessive noise for people residing or working near the Project area. The Project would have no impact.

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

Less than Significant with Mitigation. The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan as traffic would be accommodated during construction to allow movement through the area. As the Project is intended to prevent future bridge failure, the Project would improve future traffic conditions for emergency response or emergency evacuation.

During construction, emergency service access will be temporarily diverted around the existing bridge by a temporary parallel road realignment, also referred to as a "shoo-fly detour", that would carry traffic around the construction area. The bridge replacement is anticipated to be completed in one year (approximately 100 working days); therefore, the temporary detour would be in place for the duration of construction.

A TMP will be developed in accordance with Caltrans' standards and procedures to ensure impacts to emergency response services remain minimal. While construction is anticipated to occur during the driest times of the year, there remains a risk for flash-flooding during the summer monsoon events. Flash-flooding may result in temporary delays in the Project area as the shoo-fly detours provide at-grade, or near at-grade, low water crossings, which might be temporarily inundated during such storm events. The TMP will provide protocols on how and when to implement alerts and redirect traffic to

minimize further traffic delay during any flash-flood forecasts and events. Measure **TRA-1** will be implemented.

Following completion of the proposed bridge replacement, the temporary detour would be removed and there would be no remaining impacts to emergency access. Therefore, impacts would be less than significant with mitigation incorporated.

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

Less than Significant. The San Bernardino County General Plan Fire Safety (FS) Overlay includes areas within the mountains, valley foothills, and desert region designated by the applicable Fire Authority as wildfire risk areas. It includes all the land generally characterized by areas varying from relatively flat to steep sloping terrain and with moderate to heavy fuel loading contributing to high fire hazard conditions. According to the FS Overlay, no fire safety area or associated wildfire risk occurs within or near any of the proposed Project sites.

Vegetation within the Project area is minimal and sparse. While construction equipment does have the potential to start fires, use of standard BMPs to prevent fires would be utilized throughout construction of the Project. Further, the Project would not introduce new permanent features or utilities which could contribute to wildfire. The Project would not exacerbate wildfire risks; therefore, impacts would be less than significant.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

HAZ-1: It is anticipated that yellow pavement striping will be removed since it is present over the bridge along NTH. Removal of yellow striping and pavement marking materials would be performed in accordance with latest Caltrans Standard Special Provision for REMOVE TRAFFIC STRIPE AND PAVEMENT MARKINGS. If yellow striping is removed in conjunction with the existing pavement, the paint striping can be considered non-hazardous material and a provision for handling the paint is not required.

HAZ-2: Lead-based paint is presumed to be present within the bridge barriers. The contractor shall ensure lead-based paint is properly managed and removed from the Project site in accordance with the latest Caltrans Standard Special Provision for DISTURBANCE OF EXISTING PAINT SYSTEMS ON BRIDGES.

HAZ-3: Treated wood along bridge deck barriers and supports underneath the bridge contain chemicals, e.g., creosote, which pose a risk to human health and the environment and must be handled in accordance with CCR, Title 22, Division 4.5 implemented by the Department of Toxic Substances Control (DTSC). Section 14-11.14 provides guidelines on handling, storing, transporting, and disposing of Treated Wood Waste (TWW). Caltrans follows the regulations adopted by DTSC regarding TWW, which may be handled as a regulated solid waste and disposed of in a State Water Resources Control Board certified solid waste landfill.

The contractor shall ensure that removal of TWW would be performed in accordance with the latest Caltrans Standard Special Provision for TREATED WOOD WASTE.

HAZ-4: As is the case for any project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during project construction (such as previously undetected petroleum hydrocarbon contamination from former underground storage

tanks). If known or previously unknown hazardous waste/material is encountered during construction, the procedures outlined in the Caltrans Hazards Procedures for Construction shall be followed.

TRA-1: A Traffic Management Plan would be prepared prior to construction and be implemented during construction of the Project to reduce disruption of traffic patterns. Public information and awareness campaigns, motorist information strategies, and incident management strategies would alert the public of the temporary construction shoo-fly detours and the Project.

X. HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 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 offsite;	☐	☒	☐	☐
(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	☐	☒	☐	☐
(iv) impede or redirect flood flows?	☐	☒	☐	☐
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?	☐	☒	☐	☐

REGULATORY SETTING

Federal

Clean Water Act

In 1972 Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the U.S. from any point source unlawful unless the discharge is in compliance with a NPDES permit. Known today as the CWA, Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit program. However, an approved USACE jurisdictional delineation (SPL-2010-01042-SLP) determined that Soda Lake (Dry Lake), which is upstream of the Mojave River Channel, is not a waters of the U.S. as it is an

isolated intrastate dry lake that is not considered a traditionally navigable water and does not meet the definitions of an "a(3)" water as outlined by the USACE. As such, Soda Lake (Dry Lake) is considered a non-jurisdictional water that does not fall under the purview of the USACE. Based on this determination, the channel within the Project area, which occurs downstream (north) of Soda Lake (Dry Lake), is also considered non-jurisdictional and will not require permitting or compliance under Section 401 or 404 of the CWA.

Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. The U.S. EPA delegated to the SWRCB the implementation and administration of the NPDES program in California. The SWRCB established nine RWQCBs. The SWRCB enacts and enforces the Federal NPDES program and all water quality programs and regulations that cross Regional boundaries. The nine RWQCBs enact, administer and enforce all programs, including NPDES permitting, within their jurisdictional boundaries. Section 402(p) requires permits for discharges of stormwater from industrial, construction, and Municipal Separate Storm Sewer Systems (MS4s).

State

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to waters of the State. Waters of the State include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by WDRs. WDRs may specify the inclusion of additional project features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

The SWRCB and RWQCBs are responsible for establishing the water quality standards and regulating discharges to protect beneficial uses of water bodies. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions, and then set standards necessary to protect these uses. Consequently, the water quality standards developed for particular water body segments are based on the designated use and vary depending on such use. Water body segments that fail to meet standards for specific pollutants are included in a Statewide List in accordance with CWA Section 303(d). If a Regional Board determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-source point controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed. The SWRCB implemented the requirements of CWA Section 303(d) through the General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2022-0057-DWQ NPDES No. CAS000002).

The fourth edition of the Water Quality Control Plan (Basin Plan) for the Lahontan Region was adopted by the RWQCB in 2004, including amendments effective August 1995 through September 22, 2021.

State Water Resources Control Board and Regional Water Quality Control Boards
The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of stormwater dischargers, including MS4s. The U.S. EPA defines an MS4 as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying stormwater." The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The SWRCB adopted an order for Small Municipal Separate Storm Sewer Systems (MS4) Phase II General Permit, Water Quality Order No. 2013-0001-DWQ, as amended (NPDES General Permit No. CAS000004). The Order directs Regulated Small MS4s to obtain coverage under a NDPES Permit. The SWRCB has designated San Bernardino County as a Regulated Small MS4 for the purposes of the NPDES permit. Within the urbanized portion of the Mojave River Watershed in San Bernardino County, the Phase II Small MS4 Permit covers the following jurisdictions:

- County of San Bernardino
    - Unincorporated areas of Phelan, Oak Hills, Spring Valley Lake and Victorville
- City of Hesperia
- City of Victorville
- Town of Apple Valley

The community of Chambless is not covered by the Phase II Small MS4 Permit due to its population size of under 1,000 residents.

For the jurisdictions within the Mohave River Watershed, the County prepared the *Mohave River Watershed Technical Guidance Document for Water Quality Management Plans* (2016). The document establishes requirements for project proponents (both private and public agency project proponents) to meet the minimum Phase 2 MS4 Permit stormwater management requirements applicable to Regulated Projects. The document requires project proponents to incorporate infiltration Low Impact Development (LID) Best Management Practices (BMP) to the maximum extent practicable (MEP); and use biotreatment and harvest and use BMP for the remainder of the design capture volume (DCV).

Construction General Permit (CGP)
The Construction General Permit (NPDES No. CAS000002, SWRCB Order No. 2022-0057-DWQ, was adopted on September 8, 2022) and effective on September 1, 2023. The permit regulates stormwater discharges from construction sites which result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development.

For all projects subject to the CGP, the applicant is required to hire a Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer (QSD) to develop and implement an effective SWPPP. A Qualified SWPP Practitioner (QSP) may be hired as well to assist in field work. All Project Registration Documents (PRDs), including the SWPPP, Risk Level (RL) Determinations, Site map and post-construction treatment documents are required to be uploaded into the SWRCB's on-line Stormwater Multiple Application and Report Tracking System (SMARTS). A Waste discharge Identification (WDID) number will be issued within 10 business days after the State Waterboard receives a complete Notice of Intent (NOI) package.

The 2022 CGP requires post-construction treatment permit registration documents to be submitted in SMARTS with the NOI to include: (1) An attachment or web-source containing the NPDES MS4 post-construction requirements and (2) the post-construction plans and calculations (Preliminary post-construction plans and calculations may be submitted as a Permit Registration Document, as long as the approved plans and calculations are submitted within 14 days of approval by the municipal stormwater permittee, through a Change of Information (COI) in Stormwater Multiple Application and Report Tracking System [SMARTS]). Additionally, a COI in SMARTS must be submitted for any revisions to post-construction plans and calculations prior to submitting the Notice of Termination (NOT).

The proposed Project is subject to the CGP. Coverage under the State Water Resources Control Board's Construction General Permit, which is a NPDES Permit, will be obtained. Any further avoidance or minimization measures from regulatory permitting would be incorporated into the Project, and adherence to the requirements set forth in these permits will further minimize impacts to water quality and aquatic resources.

DISCUSSION OF IMPACTS

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

Less than Significant with Mitigation. During construction, traffic will be temporarily diverted around the existing bridge by a temporary low-water crossing shoo-fly detour built parallel to the existing bridge that would carry traffic around the construction area. Following construction, the Project area would be restored to pre-construction conditions. Impacts related to stormwater or flood flows would be less than significant.

The Project would result in temporary impacts to approximately 0.18 acre of ephemeral ditch during construction activities, when the Project would require the creation of a temporary road realignment with a low water crossing as well as staging and access areas for the installation of the new bridge. Construction of the proposed Project would cause disturbances to the ground surface from earthwork, including excavating and grading. These activities would potentially increase the amount of sediments entering Lamego Ditch. However, the ditch would be dry at the time of construction. Therefore, no impacts to water quality are anticipated to occur. With implementation of measures **BIO-1** through **BIO-6**, discussed under Biological Environment, impacts related to water quality, implementation of water quality control or sustainable groundwater management plans would be less than significant with mitigation incorporated.

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

Less than Significant. The proposed Project would not deplete groundwater supplies, require use of a groundwater well or impede potential groundwater recharge. Impacts would be less than significant.

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 offsite

(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?

(iv) impede or redirect flood flows?

Less than Significant with Mitigation. During construction, traffic will be temporarily diverted around the existing bridge by a temporary low-water crossing shoo-fly detour built parallel to the existing bridge that would carry traffic around the construction area. Following construction, the Project area would be restored to pre-construction conditions. Specifically, the sandy ephemeral ditch that flows under the existing bridge will be re-graded so that natural water flow would be allowed to return through the Project area following the next precipitation event. Impacts related to stormwater or flood flows would be less than significant.

The Project would result in temporary impacts to approximately 0.18 acre of ephemeral ditch during construction activities, when the Project would require the creation of a temporary road realignment with a low water crossing as well as staging and access areas for the installation of the new bridge. Construction of the proposed Project would cause disturbances to the ground surface from earthwork, including excavating and grading. These activities would potentially increase the amount of sediments entering Lamego Ditch. However, the ditch would be dry at the time of construction. Therefore, no impacts to water quality are anticipated to occur. With implementation of measures **BIO-1** through **BIO-6**, discussed under Biological Environment, and implementation of **HYD-1** impacts related to water quality, implementation of water quality control or sustainable groundwater management plans would be less than significant with mitigation incorporated.

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

Less than Significant with Mitigation. As the Project is approximately 130 miles inland from the Pacific Ocean, there is no tsunami hazard risk. As the largest inland water body near the Project is the Salton Sea, approximately 70 miles south, there is no seiche hazard risk.

The Project is located in Zone D, which is an area where there are possible but undetermined flood hazards due to flood hazard analysis not having been conducted in the area: therefore, the Project is not located within an identifiable 100-year floodplain or regulatory floodway. The hydraulic capacity of the watercourse underneath the bridge is anticipated to be improved as a result of the bridge replacements. Therefore, impacts related to project inundation are less than significant.

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

Less than Significant Impact with Mitigation. The Project must adhere to the CGP and SWPPP which includes water quality and watershed protection measures necessary for proper storm water management. The Project would not obstruct implementation of the any groundwater management plan. Further, implementation of **BIO-1** through **BIO-6** and **HYD-1** will ensure the Project will conform with current regulations and therefore ensure the Project impacts will be less than significant with mitigation incorporated.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

BIO-1: Best Management Practices (BMPs):

- Disturbed soils would be covered by loose bulk materials or other materials (like waddles) to reduce erosion and runoff during rainfall events.
- Disturbed soils would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities.
- All concrete curing activities would be conducted to minimize spray drift and prevent curing compounds from entering the waterway directly or indirectly.
- All construction materials, vehicles, stockpiles, and staging areas would be situated outside of ephemeral ditches as feasible. All stockpiles would be covered, as feasible.
- All erosion control measures and storm water control measures would be properly maintained until final grading has been completed and permanent erosion control measures have been implemented.
- All disturbed areas would be restored to pre-construction contours so that hydrologic function of the ephemeral ditches is not permanently impacted.
- All construction materials would be hauled off-site after completion of construction.

BIO-2: Refueling or maintenance of equipment shall not be permitted to occur within the ephemeral ditches at the Project site. Refueling and maintenance shall occur on the existing paved roadways rather than within natural communities when feasible. When refueling and maintenance activities occurs in natural communities, plastic sheeting or other secondary containment measures will be used to capture accidental spills before they can contaminate the soil. Secondary containment must have a raised edge (e.g., sheeting wrapped around wattles).

BIO-3: Equipment will be checked daily for leaks and will be well maintained to prevent lubricants and any other deleterious materials from entering natural environments.

BIO-4: A chemical spill kit must be kept onsite and available for use in the event of a spill.

BIO-5: Secondary containment consisting of plastic sheeting or other impermeable sheeting shall be installed underneath all equipment/materials located in a natural area (ephemeral ditch or creosote bush scrub habitat) as needed to prevent petroleum products or other chemicals from contaminating the soil or from spilling directly into ephemeral ditches. Secondary containment must have a raised edge (e.g., sheeting wrapped around wattles).

BIO-6: Project activities will not occur during any periods of active precipitation or when standing water or observable surface flow in the ephemeral ditch within the BSA. In the Mojave Desert, this is most likely to occur between November and April, and during the summer monsoon season from July to September. When precipitation is occurring or surface water is present, Project work within the ephemeral ditch channel will be halted in order to minimize disturbance to aquatic resources and desert wildlife, which is most active during this critical time when water is available.

HYD-1: Following the completion of project activities, areas that have been disturbed by project activities within the BSA will be re-graded to pre-construction conditions. Specifically, the sandy ephemeral ditch that flows under the new bridge will be re-graded so that natural water flow would be allowed to return through the Project area following the next precipitation event.

XI. LAND USE AND PLANNING

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

REGULATORY SETTING

The County's Development Code (Title 8 of the County Code of Ordinances) provides the basis for current zoning designations and development regulations in unincorporated areas.

ENVIRONMENTAL SETTING

The current land uses within the Project area includes Open Space (OS) and the current zoning designations within the Project area include Resources Conservation (RC).

DISCUSSION OF IMPACTS

a) Physically divide an established community?

No Impact. The proposed bridge replacements would remain on the same alignment as the existing NTH. Therefore, the Project would not physically divide an established community. There would be no impact.

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?

Less than Significant. The proposed bridge replacements are consistent with statewide, regional, and local mobility goals, and are being coordinated with impacted governmental, regulatory, and local agencies in the area to ensure consistency with applicable local goals and objectives. The Project would not change the land use designation or result in any zoning changes.

While the proposed Project would occur on land owned by the U.S. Bureau of Land Management, the proposed bridge replacements would occur entirely within the County's right-of-way as granted by the BLM. Therefore, impacts would be less than significant.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

None.

XII. MINERAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The Surface Mining and Reclamation Act (SMARA) of 1975 requires the state geologist (California Geological Survey) to inventory and classify selected mineral resources in California. The proposed Project is located in an area of the unincorporated community of Chambless, which is located in the North Desert Region of San Bernardino County California. Approximately 6.2% of the region is designated MRZ-2 or MRZ-3 (County 2019). The following is a description of SMARA mineral resource classifications:

- MRZ-1: Areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2a: Areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present.
- MRZ-2b: Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present.
- MRZ-3a: Areas containing known mineral deposits that may qualify as mineral resources
- MRZ-3b: Areas containing inferred mineral deposits that may qualify as mineral resources.
- MRZ-4: Areas where geologic information does not rule out either the presence or absence of mineral resources.
- SZ Areas: Contain unique or rare occurrences of rocks, minerals, or fossils that are of outstanding scientific significance.
- IRA Areas: County- or state-identified areas where production and information indicates that significant minerals are present.

DISCUSSION OF IMPACTS

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?; and
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?

No Impact. The proposed Project would involve the replacement of one bridge along NTH. According to the NR-4 Mineral Resource Zone Map, found in the Natural Resources Element of the San Bernardino Countywide Plan (October 2020), mineral resource zones do not occur within the vicinity of the proposed bridge replacement. There would be no impact to mineral resources.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

None.

XIII. NOISE

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

REGULATORY SETTING

State

Section 216 of the California Streets and Highways Code
Section 216 of the California Streets and Highways Code relates to the noise effects of a proposed freeway project on public and private elementary and secondary schools. Under this code, a noise impact occurs if, because of a proposed freeway project, noise levels exceed 52 dBA-L_{eq}(h) in the interior of public or private elementary or secondary classrooms, libraries, multipurpose rooms, or spaces. This requirement does not replace the "approach or exceed" NAC criterion for FHWA Activity Category E for classroom interiors, but it is a requirement that must be addressed in addition to the requirements of 23 CFR 772.

If a project results in a noise impact under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below 52 dBA-L_{eq}(h). If the noise levels generated from freeway and roadway sources exceed 52 dBA-L_{eq}(h) prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project.

Local

San Bernardino County Code of Ordinances § 83.01.080 Noise
The following is applicable to construction-related impacts of the proposed Project:

(2) Noise Limit Categories. No person shall operate or cause to be operated a source of sound at a location or allow the creation of noise on property owned, leased, occupied, or otherwise controlled by the person, which causes the noise level, when measured on another property, either incorporated or unincorporated, to exceed any one of the following:

(d) Noise Standards for Adjacent Mobile Noise Sources. Noise from mobile sources may affect adjacent properties adversely. When it does, the noise shall be mitigated for any new development to a level that shall not exceed the standards described in the following **Table 5. Noise Standards for Adjacent Mobile Noise Sources**.

Table 5. Noise Standards for Adjacent Mobile Noise Sources

Land Use		Ldn (or CNEL) dB(A)	
Categories	**Uses**	**Interior (1)**	**Exterior (2)**
Residential	Single and multi-family, duplex, mobile homes	45	60 (3)
Commercial	Hotel, motel, transient housing	45	60 (3)
	Commercial retail, bank, restaurant	50	N/A
	Office building, research and development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater		
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	65
Open Space	Park	N/A	65
Notes:			
(1) The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors.			
(2) The outdoor environment shall be limited to: • Hospital/office building patios • Hotel and motel recreation areas • Mobile home parks • Multi-family private patios or balconies • Park picnic areas • Private yard of single-family dwellings School playgrounds			
(3) An exterior noise level of up to 65 dB(A) (or Community NEL) shall be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB(A) (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.			
CNEL = (Community Noise Equivalent Level). The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m.			
Source: San Bernardino County San Bernardino County Code of Ordinances § 83.01.080 Noise			

(g) Exempt Noise. The following sources of noise shall be exempt from the regulations of this Section:

(1) Motor vehicles not under the control of the commercial or industrial use.

(2) Emergency equipment, vehicles, and devices.

(3) Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

San Bernardino County Policy Plan (2022)

The County's Policy Plan (County 2022) Hazards (HZ) Element contains goals, policies, and programs designed to protect the community from the harmful and annoying effects of exposure to excessive noise. Applicable Goals and Policies related to the proposed Project include:

Goal HZ-2 Human-Generated Hazards – People and the natural environment protected from exposure to hazardous materials, excessive noise, and other human-generated hazards.

Policy HZ-2.6 Coordination with Transportation Authorities: We collaborate with airport owners, FAA, Caltrans, SBCTA, Southern California Association of Governments (SCAG), neighboring jurisdictions, and other transportation providers in the preparation and maintenance of, and updates to transportation-related plans and projects to minimize noise impacts and provide appropriate mitigation measures.

Policy HZ-2.7 Truck Delivery Areas: We encourage truck delivery areas to be located away from residential properties and require associated noise impacts to be mitigated.

Policy HZ-2.8 Proximity to Noise Generating Uses: We limit or restrict new noise sensitive land uses in proximity to existing conforming noise generating uses and planned industrial areas.

Policy HZ-2.9 Control Sound at the Source: We prioritize noise mitigation measures that control sound at the source before buffers, soundwalls, and other perimeter measures.

ENVIRONMENTAL SETTING

A review of aerial photography and San Bernardino County General Plan Land Use Map were studied to identify land uses that could be subject to traffic and construction noise impacts from the proposed Project. The following land uses were identified in the Project area:

- Open Space (OS)
- Undeveloped Land

As required by the Protocol, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. The Project area consists of undeveloped, open space land use with no residential or commercial uses; therefore, noise abatement for temporary construction activities is not required.

DISCUSSION OF IMPACTS

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?; and

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

Less than Significant. While the Project will have the potential for construction-related noise and vibration impacts related to bridge replacement and road resurfacing, there are no residences or receptors in the immediate vicinity of the Project. The nearest sensitive receptor is located approximately 0.9-mile east. Further, noise will be minimized to less than significant levels using standard Caltrans specifications regarding construction noise. Therefore, temporary construction noise and vibration impacts would be less than significant. Following construction, there would be no permanent increase in ambient 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?

No Impact. The Project will not result in residential construction and is not located within the vicinity of a private airstrip or airport land use. The closest airport is approximately 10 miles west of the Project area; therefore, there are no impacts related to air traffic noise.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

None.

XIV. POPULATION AND HOUSING

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

According to the 2016 American Community Survey, only 14.6% of County residents lived in unincorporated areas. The County Policy Plan only addresses unincorporated lands as it relates to increases in population and housing (County 2022). Because Chambless is not an incorporated city or a census-designated place with official U.S. Census population figures, there is no formal current population count from the U.S. Census Bureau. Instead, population estimates are based on local signage which reports a total population of between 6-11 residents as of 2005. The proposed Project does not involve the addition of new housing or the displacement of existing housing.

DISCUSSION OF IMPACTS

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

No Impact. The proposed Project does not include the construction of new homes or businesses. The proposed Project does not expand the capacity of the bridge to service more vehicles; therefore, this action will not result in an increase in traffic volume and/or demand per the traffic forecast completed for the Project. Therefore, the Project would have no potential to induce substantial population growth in the area, either directly or indirectly. No impact would occur.

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

No Impact. The Project will not displace any number of existing housing or necessitate the construction of replacement housing. No impact would occur.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

None.

XV. PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☒	☐	☐
Police protection?	☐	☒	☐	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

Fire Protection
The San Bernardino County Fire Department (County Fire) provides fire protection and emergency services to unincorporated communities within the County. The community of Chambless resides in the South Desert Region (Division 4) and is served by stations in Needles, California (County 2020).

Police Protection
The community of Chambless and surrounding unincorporated areas receives general public safety and law enforcement services from the San Bernardino County Sheriff's Department Desert Patrol Bureau as well as the California Highway Patrol.

Schools
The community of Chambless and surrounding unincorporated areas is served by the Silver Valley Unified School District which oversees a variety of public schools servicing students ranging in age from pre-school to adult. The closest schools are located approximately 50 miles east of the Project area.

DISCUSSION OF IMPACTS

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios,

response times or other performance objectives for any of the public services: Fire Protection and/or Police Protection, Schools, Parks, or other public facilities?

Less than Significant with Mitigation. During construction, emergency service access and all other traffic will be temporarily diverted around the existing bridge by a temporary low-water crossing shoo-fly detour built parallel to the existing bridge that would carry traffic around the construction area. The bridge replacement is anticipated to be completed in one construction season (approximately 100 working days); therefore, the temporary detour would be in place for the duration of construction.

Through **TRA-1**, A TMP will be developed to ensure impacts to emergency response services remain minimal. While the ditch is anticipated to be dry during the construction period, there remains a risk for flash-flooding due to the local climate. The risk for flash-flooding is an existing condition and adverse driving conditions or delays as a result of flooding would not be worsened by the temporary shoo-fly detour. Furthermore, if the temporary shoo-fly detour experiences flooding, the TMP will provide alerts and redirect traffic to minimize further traffic delay.

Impacts to schools, parks, and other public facilities would be less than significant. Following completion of the proposed bridge replacement, the temporary detour would be removed and there would be no remaining impacts to any public services.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

TRA-1: A Traffic Management Plan would be prepared prior to construction and be implemented during construction of the Project to reduce disruption of traffic patterns. Public information and awareness campaigns, motorist information strategies, and incident management strategies would alert the public of the temporary construction shoo-fly detours and the Project.

XVI. RECREATION

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

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?; and

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

No Impact. There are no parks or recreational facilities within 0.5 miles of the Project site. Further, the replacement of the bridge would not require the construction or expansion of any recreational facilities. No impacts would occur to parks and recreation facilities as a result of the proposed Project.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

None.

XVII. TRANSPORTATION

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐

REGULATORY SETTING

On September 27, 2013, Governor Brown signed Senate Bill 743 (SB 743) and started a process intended to fundamentally change transportation impact analysis as part of CEQA compliance. These changes include the elimination of auto delay, level of service, and other similar measures of vehicle capacity or traffic congestion as a basis for determining significant impacts. The Governor's Office of Planning and Research (OPR) has issued final guidance entitled, Proposed Updates to the CEQA Guidelines (November 2017), covering the specific changes to the CEQA guidelines. The final guidance recommends elimination of auto delay and level of service for CEQA purposes and the use of Vehicle Miles Traveled, or VMT, as the preferred CEQA transportation metric. The County's General Plan incorporates the change in transportation impact analysis, resulting from SB 743, and includes VMT policy that establishes significance thresholds for CEQA analysis of future projects.

<u>2019 CEQA Update: Section 15064.3(b)(2) - Determining the Significance of Transportation Impacts</u>

Pursuant to CEQA section 15064.3(b)(2), transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, a lead agency may tier from that analysis as provided in Section 15152.

DISCUSSION OF IMPACTS

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

No Impact. The purpose of the Project is to replace a structurally deficient bridge in order to:

- Enhance safety on National Trails Highway by providing new vehicular crossings for this structure;
- Provide a transportation facility consistent with County and Caltrans Standards, as well as local and regional plans.

The NTH roadway alignment would remain the same. The proposed Project would not increase road capacity and would have no impacts related to VMT. Upon completion, hazards related to the safety of NTH would be reduced. There would be no impact.

d) Result in inadequate emergency access?

Less than Significant with Mitigation. During construction, traffic will be temporarily diverted around the existing bridge by a temporary low-water crossing shoo-fly detour built parallel to the existing bridge that would carry traffic around the construction area. The bridge replacement is anticipated to be completed in one construction season (approximately 120 working days); therefore, the temporary detour would be in place for the duration of construction.

Through implementation of **TRA-1**, a TMP will be developed in accordance with Caltrans' standards and procedures to ensure impacts to emergency response services remain minimal. While construction is anticipated to occur during the driest times of the year, there remains a risk for flash-flooding during the summer monsoon events. Flash-flooding may result in temporary delays in the Project area as the shoo-fly detours provide at-grade, or near at-grade, low water crossings, which might be temporarily inundated during such storm events. The TMP will provide protocols on how and when to implement alerts and redirect traffic to minimize further traffic delay during any flash-flood forecasts and events.

Following completion of the proposed bridge replacement, the temporary detour would be removed and there would be no remaining impacts to emergency access. Therefore, impacts would be less than significant with mitigation incorporated.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

TRA-1: A Traffic Management Plan would be prepared prior to construction and be implemented during construction of the Project to reduce disruption of traffic patterns. Public information and awareness campaigns, motorist information strategies, and incident management strategies would alert the public of the temporary construction shoo-fly detours and the Project.

XVIII. TRIBAL CULTURAL RESOURCES

XVII. TRIBAL CULTURAL RESOURCES: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

REGULATORY SETTING

Effective July 1, 2015, CEQA was revised to include early consultation with California Native American tribes and consideration of tribal cultural resources (TCRs). These changes were enacted through Assembly Bill 52 (AB 52). By including TCRs early in the CEQA process, AB 52 intends to ensure that local and Tribal governments, public agencies, and Project proponents would have information available, early in the Project planning process, to identify and address potential adverse impacts to TCRs. CEQA now establishes that a "project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment" (PRC § 21084.2).

To help determine whether a project may have such an adverse effect, the PRC requires a lead agency to provide an opportunity to consult with any California Native American tribe which has filed a 'general request' letter with the lead agency, is traditionally and culturally affiliated with the geographic area of the proposed project and requests a consultation The consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project (PRC § 21080.3.1). Consultation must consist of the lead agency providing formal notification, in writing, to the tribes that have requested notification of proposed projects within their traditionally and culturally affiliated area. If the tribe wishes to engage in consultation on the project, the tribe must respond to the lead agency within 30 days of receipt of the formal notification. Once the lead agency receives the tribe's request to consult, the lead agency must then begin the consultation process within 30 days. If a lead agency determines that a project may cause a substantial adverse change to TCRs, the lead agency must consider measures to mitigate that impact. Consultation concludes when either: 1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a TCR, or 2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC § 21080.3.2). Under existing law, environmental documents

must not include information about the locations of an archaeological site or sacred lands or any other information that is exempt from public disclosure pursuant to the Public Records act. TCRs are also exempt from disclosure. The term "tribal cultural resource" refers to either of the following:

Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources
- Included in a local register of historical resources as defined in subdivision (k) of California Public Resources Code (PRC) Section 5020.1
- A resource determined by a California lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of the PRC Section 5024.1.

ENVIRONMENTAL SETTING

The analysis of TCRs presented in this section is based on a review of the current Project description, the Cultural Resources Technical Report (Dokken 2025b) prepared for the Project, available literature, and an archaeological field survey conducted by Dokken Engineering archaeologists on July 7, 2025. Please note that due to the inclusion of sensitive and confidential information, the Cultural Resources Technical Report is not available to the general public.

The following text is previously described in section V. Cultural Resources and similarly provides context for the analysis of TCRs in the Project area.

Native American Consultation (PRC § 21080.3.1, otherwise known as "AB 52")

In April 2025, initial notification letters were mailed to the Twenty-Nine Palms Band and the Yuhaaviatam of San Manuel Nation (formerly San Manuel Band of Mission Indians) as part of the CEQA consultation requirements specified in PRC § 21080.3.1. The Yuhaaviatam of San Manuel Nation replied that they did not wish to consult on the Project. No response from the Twenty-Nine Palms Band of Mission Indians has been received. As no Tribes requested to consult on the Project within the specified notification period, no further consultation under PRC § 21080.3.1 is required.

Project Area Limits (PAL)

The PAL for the Project was configured to include the area needed for bridge replacement, staging, and access (**Figure 6. PAL**). The width of the PAL is limited to the County right-of-way (ROW), a 400-foot-wide roadway and maintenance easement held by the County within land owned by the Bureau of Land Management. The length of the PAL includes approximately 800 feet of roadway approach work. The PAL includes temporary construction staging, temporary construction easements, a temporary roadway detour, roadway approach work, flood control ditch/channel modification, potential utility relocation, and all associated grading activities. The PAL also includes additional area to account for any Project feature revisions. For any temporary construction easement required, the County will coordinate with each private property owner prior to construction. The PAL totals approximately 6.98 acres in size.

The vertical PAL encompasses the deepest ground disturbance and the full height of the replacement bridge. The deepest ground disturbance will total a maximum of 25 feet or less for the proposed abutment footings and between 35 and 50 feet below ground surface for the pier pile extensions. The height of the PAL amounts to approximately 14 feet above existing ground surface, which is approximately three feet higher than existing conditions, and includes the bridge deck, railing, and a slight raise in the roadway profile. As the proposed improvements are similar in use, appearance, and height to the existing conditions, there is limited potential for indirect effects beyond the defined PAL.

Buried Archaeological Site Sensitivity

The Project area is located within dissected fans at the base of small mountain ranges. Alluvial and colluvial material is deposited below these ranges, producing large fans drained by a series of rills, shallow gullies, and ephemeral channels at the foot of the mountains. Soils within the PAL are poorly sorted colluvium consisting of unconsolidated, rocks, gravel, and sand. While there are mountainous ranges and steep fans within a mile of the PAL, the topography of the PAL itself is relatively flat, gently sloping to the south and is not sufficiently situated for habitation nor seasonal food collection and processing but, rather, may have been suited for short-term camps. Most of the PAL is located on medial fans that have moderate sensitivity for buried resources. Pleistocene soils dominate the PAL, with only a minimal portion of Holocene soils present within the southeast corner. As human occupation of the area did not occur until the Holocene, the potential for sufficient soil accumulation that could bury indigenous cultural resources, is *low*.

Sources Consulted

Background research was conducted to identify previous studies and recorded cultural resources within the PAL and a one-mile search radius around the PAL. The background research consisted of a record search, literature and map reviews, and consultation with the Native American Heritage Commission (NAHC). Available historic maps, aerial imagery, General Land Office (GLO) plat maps, geological deposit maps, and a review of soil compositions were also consulted (as discussed in the buried site sensitivity section).

Records Search

Native American Heritage Commission

A request to search the Sacred Lands File (SLF) for any Native American cultural resources that might be affected by the Project was sent to the NAHC in November 2025. The NAHC responded that the results of the review were *negative*.

California Historical Resources Information Center (CHRIS)

A record search for completed surveys and previously recorded resources within the PAL area and a one-mile radius was returned from the CHRIS' South Central Coastal Information Center (SCCIC), California State University, Fullerton in July 2025. The results of the SCCIC search indicate that 10 cultural resources studies have been conducted within one mile of the PAL, with none of these occurring within the PAL. The SCCIC also identified 19 previously documented cultural resources within the one-mile search radius. Seventeen of these resources are historic and two are indigenous. None are located within the Project area.

Additional previously recorded resources that were not returned in the SCCIC search results but which are present within the PAL include:

- A segment of National Old Trails Road/Route 66 (CA-SBR-2910H) (hereafter referred to as "NTH")
- Lamego Ditch Bridge (County Bridge No. 85), non-contributing element of the NTH;
- C-Markers (right-of-way boundary monuments), contributing element of the NTH;

- Late 1950s paddleboard, contributing element of the NTH;
- Flood control dikes/ditches, non-contributing element of the NTH;
- Post-1974 Rock Art/Graffiti, non-contributing element of the NTH;
- California Historical Landmark No. 985, the Desert Training Center and California – Arizona Maneuver Area (DTC/C-AMA)

As none of these resources are TCRs, they are discussed in section V. Cultural Resources.

Map Research

A review of historic aerial photography, historic USGS topographic maps, and the 1856 GLO map of Township 6 North Range 13 East was conducted. The 1856 GLO Survey depicts open desert with few features aside from mountain ranges. No features are shown within the Project area. The 1942 1:250,000 Amboy sheet depicts the Project area and surrounding area with the historic alignment of Route 66 as well as townsites along the route, including Amboy and Chambless. Additionally, the railroad, a road travelling south from modern Cadiz Road, and a dirt track leading north located west of the Project area (likely an early alignment of Kelbaker Road) are depicted. The dikes north of the roadway within the Project area are depicted by 1958. More recent historic aerials (1977, 1983) and topographic maps (1958, 1964, 1975) depict the current alignment of NTH. The Project area remains largely unchanged through the current day.

Cultural Survey

An archaeological field survey was conducted on July 7, 2025 by Dokken Engineering archaeologists for the purposes of identifying and recording archaeological resources. The surface survey was conducted via controlled transects spaced at no greater than 15-meter (45 foot) intervals within the entire PAL. Special attention was paid to all observed surface exposures, cut banks, and the flood control ditch berms which were visually inspected for the presence of archaeological materials, including indigenous and historic artifacts, features and/or anthropogenic soils.

No indigenous cultural resources were identified. For a description of non-archaeological resources, see section V. Cultural Resources.

DISCUSSION OF IMPACTS

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less than Significant with Mitigation. The Project is not anticipated to cause a substantial adverse change in the significance of a TCR listed or eligible for listing in the California Register, or in a local register of historic resources as defined in PRC section 5020.1(k). The Project is also not anticipated to cause a substantial adverse change to a TCR pursuant to criteria set forth in subdivision (c) of PRC 5024.1. No indigenous cultural resources were identified during the field survey, the record search, or by the Native American tribal governments during consultation.

No impacts are anticipated for the Project related to indigenous cultural resources; however, with any Project requiring ground disturbance, there is always the possibility that previously unknown indigenous cultural resources may be unearthed during grading or other ground disturbing activities. Implementation of Avoidance and Minimization Measures **CUL-1** through **CUL-2**, as described in section V. Cultural Resources, would result in a less than significant impact with mitigation to TCRs as a result of Project implementation.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

CUL-1: If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. If Native American cultural resources are identified, the County shall contact local Native American Tribes to provide them the opportunity to review the discovery and provide recommendations as to significance and treatment.

CUL-2: If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the NAHC, who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). Further provisions of PRC 5097.98 are to be followed as applicable.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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 statutes and regulations related to solid waste?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

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?

Less than Significant. The proposed Project would improve structure safety and operations through replacement of the existing bridge and approach roadways and would not increase population in the Project vicinity; therefore, there would be no additional wastewater flows as a result of Project development; or result in expanded wastewater treatment or stormwater drainage treatment.

A variety of communication utilities are located adjacent to the Project area including underground fiber optic lines and above-ground utility poles. If, through coordination with affected utility companies via Utility "A" letters, it is found that conflicts to the existing buried fiber optic line within the Project area is unavoidable, the County will coordinate with the utility companies as needed prior to bridge construction. The existing fiber optic line will then be relocated and attached to the new bridge by the utility purveyors. Temporary disruption to utilities related to the buried fiber optic line may occur during the relocation.

No permanent impacts to existing utility services would occur as a result of the proposed bridge replacement. All existing utility services would continue to provide service even if a utility relocation would occur. Impacts would be less than significant.

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; and
e) Comply with federal, state, and local statutes and regulations related solid waste?

No Impact. The proposed Project would not create any development that includes or require the use of any utility service systems, including water, wastewater, or solid waste. There would be no impact.

XX. WILDFIRE

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the "CEQA Checklist" for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects "near" these very high fire hazard severity zones.

Based on maps produced by the CAL FIRE, the Project area is not within or near a State Responsibility Area (SRA). An SRA is the area of the state where the State of California is financially responsible for the prevention and suppression of wildfires. SRAs do not include lands within city boundaries or in federal ownership (CAL FIRE 2025). Additionally, the Project area is not within or near an area designated for moderate, high, or very high fire severity. There are no areas designated as such within any portion of the community of Chambless (CAL FIRE 2025). The closest fire severity zone is located approximately 96 miles southwest of the Project area near Highway 18 southeast of Victorville which is zoned as "High".

DISCUSSION OF IMPACTS

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

Less than Significant with Mitigation. The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan as traffic would be accommodated during construction to allow movement through the area. As the Project is intended to prevent future bridge failures, the Project would improve future traffic conditions for emergency response or emergency evacuation.

During construction, emergency service access will be temporarily diverted around the existing bridge by a temporary parallel road realignment, also referred to as a "shoo-fly detour", that would carry traffic around the construction area. The bridge replacement is anticipated to be completed in one construction season (approximately 100 working days); therefore, the temporary detour would be in place for the duration of construction activities.

Measure **TRA-1** will be implemented. A TMP will be developed to ensure impacts to emergency response services remain minimal. While construction is anticipated to occur during the driest times of the year, there remains a risk for flash-flooding during the summer monsoon events. Flash-flooding may result in temporary delays in the Project area as the shoo-fly detours provide at-grade, or near at-grade, low water crossings, which might be temporarily inundated during such storm events. The TMP will provide protocols on how and when to implement alerts and redirect traffic to minimize further traffic delay during any flash-flood forecasts and events. Following completion of the proposed bridge replacement, the temporary detour would be removed and there would be no remaining impacts to emergency access. Therefore, impacts would be less than significant with mitigation incorporated.

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?; and

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

Less than Significant. The San Bernardino County General Plan Fire Safety (FS) Overlay includes areas within the mountains, valley foothills, and desert region designated by the applicable Fire Authority as wildfire risk areas. It includes all the land generally characterized by areas varying from relatively flat to steep sloping terrain and with moderate to heavy fuel loading contributing to high fire hazard conditions. According to the FS Overlay, no fire safety area or associated wildfire risk occurs within or near any of the proposed Project sites.

Vegetation within the Project area is minimal and sparse. While construction equipment does have the potential to start fires, use of standard BMPs to prevent fires would be utilized throughout construction of the Project. Further, the Project would not introduce new permanent features or utilities which could contribute to wildfire. The Project would not exacerbate wildfire risks; therefore, impacts would be less than significant.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

TRA-1: A Traffic Management Plan would be prepared prior to construction and be implemented during construction of the Project to reduce disruption of traffic patterns. Public information and awareness campaigns, motorist information strategies, and incident management strategies would alert the public of the temporary construction shoo-fly detours and the Project.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
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?	☐	☒	☐	☐

DISCUSSION OF IMPACTS

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant with Mitigation. Implementation of the Project would not substantially degrade the quality of the existing environment. Potential impacts related to natural communities, wetlands, special status species, and threatened and endangered species have been identified and discussed in their respective sections under Biological Resources in Section IV. Mitigation measures have been identified related to individual resource-specific impacts. Construction of the proposed Project has the potential to have impacts to creosote bush scrub and the ephemeral ditch (Lamego Ditch), which serves as suitable habitat to support desert tortoise; however, avoidance and minimization measures would reduce the level of all Project-related impacts to less than significant levels. Therefore, impacts are considered less than significant.

Implementation of the proposed Project would result in impacts to an historical resource, as defined under CEQA, which includes the NTH (CA-SBR-2910H) and its character defining features including one Late 1950s Paddleboard and three C-Markers. Significant impacts to the Late 1950s Paddleboard and C-Markers through implementation of measure **CUL-3 and CUL-4** will ensure these resources are removed prior to construction, stored in protective materials, and reinstalled following the end of construction. The Late

1950s Paddleboard will also be rehabilitated through paint refurbishment to better match their original coloration. Therefore, impacts will be less than significant with mitigation incorporated.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant. CEQA Guidelines Section 15064(h) requires a lead agency to evaluate whether a project's incremental effects are cumulatively considerable when viewed in conjunction with past, present, and reasonably foreseeable future projects. The proposed timber bridge replacement along Route 66 would result in less-than-significant impacts to biological, cultural, and other environmental resources, and would not contribute to a cumulatively considerable impact.

Reasonably foreseeable future projects within the region consist primarily of similar timber bridge rehabilitation or replacement activities along the NTH. These projects are intended to address structural deficiencies and improve public safety and would be implemented incrementally over multiple construction seasons rather than concurrently. While limited temporal overlap among projects may occur, each project would be subject to project-level CEQA review and would incorporate avoidance, minimization, and standard construction best management practices that avoid permanent or substantial environmental degradation.

Because the proposed Project would not result in significant individual impacts, would not introduce new or intensified land uses, and would be consistent with the scope and scale of other safety-driven bridge improvements in the corridor, its incremental contribution to cumulative effects would be negligible. Accordingly, the proposed Project would not result in cumulatively considerable impacts in San Bernardino County, and cumulative impacts are considered less than significant.

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

Less than Significant with Mitigation. The Project would not cause significant adverse effects to human beings, either directly or indirectly with mitigation incorporated. The NTH roadway alignment would remain the same. The proposed Project would not increase road capacity and would have no impacts related to VMT. Upon completion, hazards related to the safety of NTH would be reduced. Without the proposed Project, the existing bridge would continue to remain structurally deficient. Failure of the existing bridge could result in significant disruption of traffic circulation.

While the Project will have a potential for construction-related noise and air quality impacts related to bridge replacement and road resurfacing, there are no residences or receptors in the immediate vicinity of the Project and noise will be minimized to less than significant levels using, but not limited to, the following control measures: limiting hours of construction, locating staging areas away from residences, ensuring operating mufflers are included in all construction equipment used, and scheduling impulsive noises, such as jack hammering, to affect the fewest number of receptors. Following construction, there would be no permanent increase in ambient noise levels.

During construction, traffic will be temporarily diverted around the existing bridge by a temporary parallel road realignment, also referred to as a “shoo-fly detour”, that would carry traffic around the construction area. The bridge replacement is anticipated to be completed in one year (approximately 100 working days); therefore, the temporary detour could be in place for up to one year.

A TMP will be developed in accordance with Caltrans’ standards and procedures to ensure impacts to emergency response services remain minimal. While construction is anticipated to occur during the driest times of the year, there remains a risk for flash-flooding during the summer monsoon events. Flash-flooding may result in temporary delays in the Project area as the shoo-fly detours provide at-grade, or near at-grade, low water crossings, which might be temporarily inundated during such storm events. The TMP will provide protocols on how and when to implement alerts and redirect traffic to minimize further traffic delay during any flash-flood forecasts and events.

Implementation of Measure **TRA-1** will ensure impacts to human beings are Less than Significant with Mitigation Incorporated.

4.0 SUMMARY OF MITIGATION MEASURES

4.1 Summary of Mitigation Measures

Aesthetics (Section I)

CUL-3: C-Marker Treatment:

The Cultural Resource Specialist will review the Project's Plans, Specifications, and Estimates (PS&E) and Mitigation Monitoring Report Program/Environmental Commitment Record to ensure that the protective measures below are included in the Project's Plans and Contract Special Provisions as necessary to ensure their enforcement.

The Cultural Resource Specialist will attend the pre-construction meeting for the project to provide a sensitivity training and to inform the Project Contractor of the nature of the historical resources in the PAL and their protective measures.

The Cultural Resource Specialist will conduct a pre-construction field visit to photo-document the existing conditions of the work area prior to the initial construction activity for the Project. The Cultural Resource Specialist will photograph each C-Marker and will document its existing conditions.

Prior to earthmoving work or demolition, the Contractor with oversight from the Cultural Resource Specialist, will remove each C-Marker (via hand tools and/or mechanically levered with straps). The C-Markers will be given a temporary identification tag with its bridge number/name location and GPS reading, wrapped in protective materials (such as blankets, bubble wrap, or other materials to be determined by the County, Cultural Resource Specialist, and Contractor), stored in a safe and secure area away from weather and elements.

After construction activities are completed at the C-Marker's specific bridge location, the Contractor will reinstall the C-Marker per the Project's plans in the same location, utilizing hand tools and/or mechanical tools. Each C-Marker will be installed within one foot of the monument above ground level. The Cultural Resource Specialist will review the reinstallation either in person or via photographs to ensure correct placement. Photo-documentation will be prepared to be included in a monitoring report.

The Cultural Resource Specialist will prepare a monitoring report documenting compliance with the above steps.

Timing/Implementation: *Prior to and After Project Construction*

Enforcement/Monitoring: *Contractor and Cultural Resource Specialist*

CUL-4: Late 1950s Paddleboard Treatment:

The Cultural Resource Specialist will review the Project's Plans, Specifications, and Estimates (PS&E) and Environmental Commitment Record to ensure that the protective /rehabilitation measures below are included in the Project's Plans and Contract Special Provisions as necessary to ensure their enforcement.

The Cultural Resource Specialist will attend the pre-construction meeting for the project to provide a sensitivity training and to inform the Project Contractor of the nature of the historical resources in the PAL and their protective measures.

The Cultural Resource Specialist will conduct a pre-construction field visit to photo-document the existing conditions of the work area prior to the initial construction activity for the Project. The Cultural Resource Specialist will photograph the late 1950s Paddleboard (and its metal post) and will document its existing conditions.

Prior to earthmoving work or demolition, the Contractor with oversight from the Cultural Resource Specialist, will remove the late 1950s Paddleboard (via hand tools only). The paddleboard will be given a temporary identification tag with its bridge number/name location and GPS reading, wrapped in protective materials (such as blankets, bubble wrap, or other materials to be determined by the County, Cultural Resource Specialist, and Contractor), stored in a safe and secure area away from weather and elements until it is provided to a paint shop for repainting.

The Contractor, in consultation with the Cultural Resource Specialist, will send the Paddleboard in its protective materials to a paint shop that has been determined to have sufficient experience dealing with historic materials to repaint the Paddleboard. The Cultural Resource Specialist will also provide paint specifications, determined during the County's 10 Bridges Project mitigation implementation, in order to match the original paint in color, design, and information.

The Cultural Resource Specialist will ensure constancy of the paddleboard repainting with the previous projects.

Once repainted, and after construction activities are completed at the Paddleboard's specific bridge location, the Contractor will reinstall the Paddleboard per the Project's plans, utilizing hand tools only.

The Cultural Resource Specialist will review the reinstallation either in person or via photographs to ensure correct placement. Photo-documentation will be prepared to be included in a monitoring report.

The Cultural Resource Specialist will prepare a monitoring report documenting compliance with the above steps.

Timing/Implementation: *Prior to and After Project Construction*

Enforcement/Monitoring: *Contractor and Cultural Resource Specialist*

Air Quality (Section III)

AQ-1: The construction contractor shall comply with Caltrans' Standard Specifications Section 14-11.04 Dust Control of Caltrans' Standard Specifications (2018).

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

AQ-2: The construction contractor shall comply with Section 7-1.02C Emissions Reduction and Section 18 Dust Palliative of Caltrans' Standard Specifications (2018).

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

AQ-3: The Wind Erosion Control BMP (WE-1) from Caltrans' Construction Site *Best Management Practices Manual* will be implemented as follows:

- Water shall be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.
- All distribution equipment shall be equipped with a positive means of shutoff.
- Unless water is applied by means of pipelines, at least one mobile unit shall be available at all times to apply water or dust palliative to the Project.
- If reclaimed water is used, the sources and discharge must meet California Department of Health Services water reclamation criteria and the Regional Water Quality Control Board (RWQCB) requirements. Non-potable water shall not be conveyed in tanks or drainpipes that will be used to convey potable water and there shall be no connection between potable and non-potable supplies. Non-potable tanks, pipes and other conveyances shall be marked "NON-POTABLE WATER – DO NOT DRINK."
- Materials applied as temporary soil stabilizers and soil binders will also provide wind erosion control benefits.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

Biological Resources (Section IV)

BIO-1: Best Management Practices (BMPs):

- Disturbed soils would be covered by loose bulk materials or other materials (like waddles) to reduce erosion and runoff during rainfall events.
- Disturbed soils would be stabilized, through watering or other measures, to prevent the movement of dust at the Project area caused by wind and construction activities such as traffic and grading activities.
- All concrete curing activities would be conducted to minimize spray drift and prevent curing compounds from entering the waterway directly or indirectly.
- All construction materials, vehicles, stockpiles, and staging areas would be situated outside of ephemeral ditches as feasible. All stockpiles would be covered as feasible.
- All erosion control measures and storm water control measures would be properly maintained until final grading has been completed and permanent erosion control measures have been implemented.
- All disturbed areas would be restored to pre-construction contours so that hydrologic function of the ephemeral ditches is not permanently impacted.
- All construction materials would be hauled off-site after completion of construction.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-2: Refueling or maintenance of equipment shall not be permitted to occur within the ephemeral ditch in the Project area. Refueling and maintenance must occur on the existing paved roadways rather than within natural communities when feasible. When refueling and maintenance activities occur in natural communities, plastic sheeting or other secondary containment measures will be used to capture accidental spills before they can contaminate the soil. Secondary containment must have a raised edge (e.g., sheeting wrapped around wattles).

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-3: Equipment will be checked daily for leaks and will be well-maintained to prevent lubricants and any other deleterious materials from entering natural environments.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-4: A chemical spill kit must be kept on-site and available for use in the event of a spill.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-5: Secondary containment consisting of plastic sheeting or other impermeable sheeting shall be installed underneath all stationary equipment located on pervious surfaces to prevent petroleum products or other chemicals from contaminating the soil or from spilling directly into ephemeral ditches. Secondary containment must have a raised edge (e.g., sheeting wrapped around wattles).

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-6: Project activities will not occur during any periods of active precipitation or when standing water or observable surface water flow is present in the ephemeral ditch within the BSA. In the Mojave Desert, this is most likely to occur between November and April, and during the summer monsoon season from July to September. When precipitation is occurring or surface water is present, Project work within the ephemeral ditch channel will be halted to minimize disturbance to aquatic resources and desert wildlife, which are most active during this critical time when water is available.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-7: An environmental awareness training shall be conducted prior to the onset of Project work for all construction personnel discussing the special-status plant and wildlife

species with the potential to occur in the BSA. The training will also discuss how to proceed if there are any encounters of special-status species within the work area, as well as measures and BMPs that will be implemented to avoid impacts on such species.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-8: During the ideal blooming period (March – April) prior to the beginning of construction activities, a rare plant survey will be conducted by a biologist. If individuals or populations of rare plants are observed within the BSA during this survey, the area around the rare plants will be marked with high-visibility Environmentally Sensitive Area fencing. Project activities will not be permitted to encroach upon the fencing, and vegetation removal will not be authorized within the boundaries of said fencing.

Timing/Implementation: *Prior to Project Construction*

Enforcement/Monitoring: *County and Contractor*

BIO-9: All vegetation removal will be minimized to the greatest extent feasible. Trees and shrubs shall be trimmed, rather than removed, unless absolutely necessary for Project activities.

Timing/Implementation: *Prior to Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-10: Prior to the initial arrival at the bridge and prior to leaving at the completion of construction, equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-11: The construction contractor shall avoid removing any vegetation or performing structure demolition during the nesting bird season (January 15 to July 31). If either of these activities must occur within the nesting season, a pre-construction nesting bird survey, which includes the burrowing owl, must be conducted no more than 3 days prior to the activity commencing. Survey methodology shall assure 100% visual coverage of the survey area – which shall include the Project work areas plus a 500-foot buffer, as property access allows – and will follow current accepted species survey methodology. Structure demolition or vegetation removal must occur within 3 days from the nesting bird survey.

A no-disturbance buffer will be established around any active nest of migratory birds and raptor species. Standard no-disturbance buffers of 100 feet for migratory birds and 300 feet for raptor species may be altered at the discretion of the Project biologist, based on species, location of the nest, and the biologist's expertise. The contractor must immediately stop work in the nesting area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the

Project biologist and in coordination with the County) in the buffer area until a qualified biologist determines the nest is no longer active.

Should burrowing owl, active burrowing owl burrows, or sign thereof be identified within the survey area, the County and Project biologist will notify and coordinate with CDFW to determine if a plan is required to avoid, minimize, and/or mitigate any potential impacts.

Timing/Implementation: *Prior to Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-12: Following construction, the areas temporarily impacted by the shoo-fly construction will be scarified 6 inches deep to kick-start the site's natural cycle of plant recruitment. Scarification could be carried out using a disc, shallow ripper, or similar implement.

Timing/Implementation: *After Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-13: Biologists shall conduct pre-construction den surveys for desert kit fox and American badger 14 to 21 days and 24 hours before any vegetation removal or ground-disturbing activities. Pre-construction surveys for desert kit fox and American badger will include all areas of direct disturbance, plus a 200-foot buffer, as property access allows. The locations of American badger and desert kit fox dens will be recorded. Current status and land use by the American badger and desert kit fox will be determined through the use of wildlife cameras, scopes, and tracking substrate.

Inactive and unoccupied dens within the Project work areas will be collapsed after their status has been determined through monitoring. Active dens will be monitored, and a qualified biologist will establish a 50-meter (165-foot) non-disturbance buffer during the non-breeding season and a 150-meter (500-foot) non-disturbance buffer during the breeding/pupping season (generally February 1 through May 15). The size of the buffer may be reduced if a qualified biologist determines that it is safe to do so without impacting the individual(s). Active burrows shall be avoided until they are confirmed unoccupied by a qualified biologist. Burrow occupancy will be determined using a tracking medium such as a diatomaceous earth or fine clay and infrared cameras placed at the entrance(s). If no tracks or evidence of activity is observed after 3 consecutive nights of monitoring, the burrow shall be scoped, excavated, and backfilled using nonpowered tools. If tracks or evidence of burrow occupancy is observed and the active den cannot be avoided with an adequate non-disturbance buffer, CDFW will be consulted to determine the course of action pertaining to exclusion efforts and passive translocation, which may include development of a management plan for CDFW's review and approval.

To guard against the spread of distemper and other diseases, equipment and tools used for burrow occupancy monitoring and excavation will be treated with a disinfectant that is proven effective. This includes, but is not limited to, accelerated hydrogen peroxide, potassium peroxymonosulfate, or a 1:20 dilution of household bleach. Fieldworker

clothing will be washed in hot water and dried using a dryer. CDFW will be notified in dealing with injured, sick, or dead American badger or desert kit fox.

Timing/Implementation: *Prior to Project Construction*

Enforcement/Monitoring: *County and Contractor*

BIO-14: If desert bighorn sheep are observed within the Project area, work will be halted until the individual(s) have left the Project area. Construction personnel are not authorized to come into direct contact with desert bighorn sheep. The species must be allowed to move throughout the Project area undisturbed by humans, vehicles, or construction machinery.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-15: An authorized Project biologist, approved by CDFW, will monitor all ground disturbing activities which may cause take of desert tortoise. The authorized biologist will also oversee the implementation of all avoidance and minimization measures put in place to protect the desert tortoise.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-16: Approximately 2-4 weeks in advance of construction activities, a focused survey for desert tortoise and their burrows within the Project area shall occur by the authorized biologist. The survey shall be conducted as described in the USFWS (2019) Mojave Tortoise Pre-project Survey Protocol and shall ensure 100% visual coverage of the survey area. Additionally, within 24 hours of the start of soil disturbance, another focused preconstruction clearance survey for the desert tortoise will be conducted by the authorized biologist. If a tortoise or tortoise sign is found in the impact areas or within the immediate vicinity during either pre-construction survey, USFWS and CDFW shall be contacted immediately and the tortoise shall be allowed to move outside the construction area/exclusionary area on their own before the Project can commence installation of exclusionary fencing, on-site construction preparation activities, or any construction activities.

Timing/Implementation: *Prior to Project Construction*

Enforcement/Monitoring: *County and Contractor*

BIO-17: Construction impact areas shall be temporarily fenced with exclusionary fencing in order to contain construction activities within the Project area and prevent the desert tortoise from entering the Project area. The desert tortoise exclusionary fencing must be in compliance with the standards outlined in the 2009 USFWS Desert Tortoise (Mojave Population) Field Manual. However, any specifications in the Field Manual that pertain specifically to bighorn sheep fencing are not required to be implemented. The Caltrans

specifications for desert tortoise fencing should include these materials and provide further details. The desert tortoise exclusion fencing shall be delineated in coordination with the authorized Project biologist. If there are any areas of the Project area not fenced by desert tortoise exclusionary fencing, the limits of the project area should be staked with high visibility flagging attached to delineate project limits .
Timing/Implementation: *Prior to Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-18: Desert tortoise exclusion fencing will be inspected twice daily (once before construction activities begin and once after construction activities have ceased for the day during ground disturbing activities in the Project area which may cause take of desert tortoise) and immediately after precipitation events during Project activities by the authorized Project biologist or trained personnel and repaired as needed. Repairs must occur within two days. Any debris that accumulates along the fence should be removed as the fence is inspected.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-19: The Project biologist shall monitor all ground disturbing activities which may cause take of desert tortoise. Project personnel shall carefully check under parked vehicles or equipment for desert tortoises before moving the vehicles or equipment. Should a desert tortoise be found within the Project area, construction activities shall cease and the USFWS and CDFW shall be contacted within 12 hours. The tortoise shall be allowed to leave the Project area limits on its own volition. Construction may only recommence at the Project biologist's authority and once the desert tortoise is outside of the Project area.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-20: Construction and maintenance vehicles shall not exceed 15 miles per hour in tortoise habitat, which includes all natural communities within the BSA, during periods of higher tortoise activity, March 1 through November 1.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-21: Open trenches, auger holes, or other excavations that may act as pitfall traps shall be inspected prior to working in or around the excavation and prior to backfilling. Other excavations that remain open overnight shall be covered to prevent them from becoming pitfall traps. Any animals found within the excavations shall be relocated by the Project biologist. Should any listed or sensitive species be found within these excavations, the appropriate wildlife agency shall be contacted immediately, and subsequent action shall be performed under the direction of the lead wildlife agencies.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-22: Should a desert tortoise be injured as a result of Project-related activities, it shall be immediately taken to a CDFW-approved rehabilitation facility by the authorized biologist. The CDFW-approved rehabilitation facility in the vicinity of the Project area is the Big Bear Alpine Zoo (909) 584-1299. Any veterinarian bills for such injured tortoises shall be paid by San Bernardino County. The CDFW and USFWS shall be notified within 12 hours of the incident. Notification shall include the date, time, location, and circumstances of the incident.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-23: Should a desert tortoise be killed by Project related activities or found dead within the construction area, remains shall be collected by the Project biologist and frozen as soon as possible. CDFW and USFWS shall be notified within 12 hours and a written report shall be sent within five calendar days of the incident. Notification shall include the date, time, location, and circumstances of the finding. The Project biologist will coordinate with both CDFW and the USFWS regarding direction on where to bring the frozen specimen.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-24: Placement and construction of rock slope protection will require the interstitial spaces within the rock slope protection to be filled with substrate to prevent trapping of desert tortoise.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-25: Prior to existing bridge demolition, a qualified biologist must conduct a focused bat survey on the existing bridge structures. If a maternal colony is found within the Project area, a qualified bat biologist shall prepare a bat eviction plan in order to evict bats during the appropriate non-pupping season, from September 1 to October 15 or March 15 to April 15. If no maternal colony or potential maternal colony is identified, work may proceed as scheduled and no additional considerations for bat species are required.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-26: All construction crew members will allow wildlife enough time to escape initial clearing and grubbing activities. Where determined appropriate by the Project biologist, initial clearing and grubbing must be accomplished by using hand tools. If initial clearing and grubbing using hand tools is not feasible, then heavy equipment may be utilized if operated at speeds less than 3 miles per hour.

Timing/Implementation: *Prior to Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-27: The contractor must dispose of all food-related trash in closed containers and must remove it from the Project area each day during construction. Construction personnel must not feed or attract wildlife to the Project area.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-28: The contractor must not apply rodenticide or herbicide within the BSA during construction.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

Cultural Resources (Section V) and Tribal Cultural Resources (Section XVIII)

CUL-1: If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. If Native American cultural resources are identified, the County shall contact local Native American Tribes to provide them the opportunity to review the discovery and provide recommendations as to significance and treatment.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *County, Contractor and Project Archaeologist*

CUL-2: If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the NAHC, who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). Further provisions of PRC 5097.98 are to be followed as applicable.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *County, Contractor and Project Archaeologist*

CUL-3: **C-Marker Treatment:**
The Cultural Resource Specialist will review the Project's Plans, Specifications, and Estimates (PS&E) and Mitigation Monitoring Report Program/Environmental Commitment Record to ensure that the protective measures below are included in the Project's Plans and Contract Special Provisions as necessary to ensure their enforcement.

The Cultural Resource Specialist will attend the pre-construction meeting for the project to provide a sensitivity training and to inform the Project Contractor of the nature of the historical resources in the PAL and their protective measures.

The Cultural Resource Specialist will conduct a pre-construction field visit to photo-document the existing conditions of the work area prior to the initial construction activity for the Project. The Cultural Resource Specialist will photograph each C-Marker and will document its existing conditions.

Prior to earthmoving work or demolition, the Contractor with oversight from the Cultural Resource Specialist, will remove each C-Marker (via hand tools and/or mechanically levered with straps). The C-Markers will be given a temporary identification tag with its bridge number/name location and GPS reading, wrapped in protective materials (such as blankets, bubble wrap, or other materials to be determined by the County, Cultural Resource Specialist, and Contractor), stored in a safe and secure area away from weather and elements.

After construction activities are completed at the C-Marker's specific bridge location, the Contractor will reinstall the C-Marker per the Project's plans in the same location, utilizing hand tools and/or mechanical tools. Each C-Marker will be installed within one foot of the monument above ground level. The Cultural Resource Specialist will review the reinstallation either in person or via photographs to ensure correct placement. Photo-documentation will be prepared to be included in a monitoring report.

The Cultural Resource Specialist will prepare a monitoring report documenting compliance with the above steps.

Timing/Implementation: *Prior to and After Project Construction*

Enforcement/Monitoring: *Contractor and Cultural Resource Specialist*

CUL-4: Late 1950s Paddleboard Treatment:

The Cultural Resource Specialist will review the Project's Plans, Specifications, and Estimates (PS&E) and Environmental Commitment Record to ensure that the protective /rehabilitation measures below are included in the Project's Plans and Contract Special Provisions as necessary to ensure their enforcement.

The Cultural Resource Specialist will attend the pre-construction meeting for the project to provide a sensitivity training and to inform the Project Contractor of the nature of the historical resources in the PAL and their protective measures.

The Cultural Resource Specialist will conduct a pre-construction field visit to photo-document the existing conditions of the work area prior to the initial construction activity for the Project. The Cultural Resource Specialist will photograph the late 1950s Paddleboard (and its metal post) and will document its existing conditions.

Prior to earthmoving work or demolition, the Contractor with oversight from the Cultural Resource Specialist, will remove the late 1950s Paddleboard (via hand tools only). The paddleboard will be given a temporary identification tag with its bridge number/name location and GPS reading, wrapped in protective materials (such as blankets, bubble wrap, or other materials to be determined by the County, Cultural Resource Specialist,

and Contractor), stored in a safe and secure area away from weather and elements until it is provided to a paint shop for repainting.

The Contractor, in consultation with the Cultural Resource Specialist, will send the Paddleboard in its protective materials to a paint shop that has been determined to have sufficient experience dealing with historic materials to repaint the Paddleboard. The Cultural Resource Specialist will also provide paint specifications, determined during the County's 10 Bridges Project mitigation implementation, in order to match the original paint in color, design, and information.

The Cultural Resource Specialist will ensure constancy of the paddleboard repainting with the previous projects.

Once repainted, and after construction activities are completed at the Paddleboard's specific bridge location, the Contractor will reinstall the Paddleboard per the Project's plans, utilizing hand tools only.

The Cultural Resource Specialist will review the reinstallation either in person or via photographs to ensure correct placement. Photo-documentation will be prepared to be included in a monitoring report.

The Cultural Resource Specialist will prepare a monitoring report documenting compliance with the above steps.

Timing/Implementation: *Prior to and After Project Construction*

Enforcement/Monitoring: *Contractor and Cultural Resource Specialist*

Geology and Soils (Section VII)

PAL-1: If unanticipated discoveries of paleontological resources occur during construction, all work within 50 feet of the discovery should be halted until the find has been evaluated by a qualified paleontologist.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor, County and Project Paleontologist*

BIO-1: Best Management Practices (BMPs):

- Disturbed soils would be covered by loose bulk materials or other materials (like waddles) to reduce erosion and runoff during rainfall events.
- Disturbed soils would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities.
- All concrete curing activities would be conducted to minimize spray drift and prevent curing compounds from entering the waterway directly or indirectly.
- All construction materials, vehicles, stockpiles, and staging areas would be situated outside of ephemeral ditches as feasible. All stockpiles would be covered, as feasible.

- All erosion control measures and storm water control measures would be properly maintained until final grading has been completed and permanent erosion control measures have been implemented.
- All disturbed areas would be restored to pre-construction contours so that hydrologic function of the ephemeral ditches is not permanently impacted.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

Hazards and Hazardous Waste (Section IX)

HAZ-1: It is anticipated that yellow pavement striping will be removed since it is present over the bridge along NTH. Removal of yellow striping and pavement marking materials would be performed in accordance with latest Caltrans Standard Special Provision for REMOVE TRAFFIC STRIPE AND PAVEMENT MARKINGS. If yellow striping is removed in conjunction with the existing pavement, the paint striping can be considered non-hazardous material and a provision for handling the paint is not required.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

HAZ-2: Lead-based paint is presumed to be present within the bridge barriers. The contractor shall ensure lead-based paint is properly managed and removed from the Project site in accordance with the latest Caltrans Standard Special Provision for DISTURBANCE OF EXISTING PAINT SYSTEMS ON BRIDGES.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

HAZ-3: Treated wood along bridge deck barriers and supports underneath the bridge contain chemicals, e.g., creosote, which pose a risk to human health and the environment and must be handled in accordance with CCR, Title 22, Division 4.5 implemented by the Department of Toxic Substances Control (DTSC). Section 14-11.14 provides guidelines on handling, storing, transporting, and disposing of Treated Wood Waste (TWW). Caltrans follows the regulations adopted by DTSC regarding TWW, which may be handled as a regulated solid waste and disposed of in a State Water Resources Control Board certified solid waste landfill.

The contractor shall ensure that removal of TWW would be performed in accordance with the latest Caltrans Standard Special Provision for TREATED WOOD WASTE.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

HAZ-4: As is the case for any project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during project construction (such as previously undetected petroleum hydrocarbon contamination from former underground storage

tanks). If known or previously unknown hazardous waste/material is encountered during construction, the procedures outlined in the Caltrans Hazards Procedures for Construction shall be followed.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

TRA-1: A Traffic Management Plan would be prepared prior to construction and be implemented during construction of the Project to reduce disruption of traffic patterns. Public information and awareness campaigns, motorist information strategies, and incident management strategies would alert the public of the temporary construction shoo-fly detours and the Project.

Timing/Implementation: *Prior to Project Construction*

Enforcement/Monitoring: *County*

Hydrology and Water Quality (Section X)

BIO-1: Best Management Practices (BMPs):

- Disturbed soils would be covered by loose bulk materials or other materials (like waddles) to reduce erosion and runoff during rainfall events.
- Disturbed soils would be stabilized, through watering or other measures, to prevent the movement of dust at the Project area caused by wind and construction activities such as traffic and grading activities.
- All concrete curing activities would be conducted to minimize spray drift and prevent curing compounds from entering the waterway directly or indirectly.
- All construction materials, vehicles, stockpiles, and staging areas would be situated outside of ephemeral ditches as feasible. All stockpiles would be covered as feasible.
- All erosion control measures and storm water control measures would be properly maintained until final grading has been completed and permanent erosion control measures have been implemented.
- All disturbed areas would be restored to pre-construction contours so that hydrologic function of the ephemeral ditches is not permanently impacted.
- All construction materials would be hauled off-site after completion of construction.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-2: Refueling or maintenance of equipment shall not be permitted to occur within the ephemeral ditch in the Project area. Refueling and maintenance must occur on the existing paved roadways rather than within natural communities when feasible. When refueling and maintenance activities occur in natural communities, plastic sheeting or other secondary containment measures will be used to capture accidental spills before they can contaminate the soil. Secondary containment must have a raised edge (e.g., sheeting wrapped around wattles).

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-3: Equipment will be checked daily for leaks and will be well-maintained to prevent lubricants and any other deleterious materials from entering natural environments.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-4: A chemical spill kit must be kept on-site and available for use in the event of a spill.

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-5: Secondary containment consisting of plastic sheeting or other impermeable sheeting shall be installed underneath all stationary equipment located on pervious surfaces to prevent petroleum products or other chemicals from contaminating the soil or from spilling directly into ephemeral ditches. Secondary containment must have a raised edge (e.g., sheeting wrapped around wattles).

Timing/Implementation: *During Project Construction*

Enforcement/Monitoring: *Contractor*

BIO-6: Project activities will not occur during any periods of active precipitation or when standing or observable surface water flow is present in the ephemeral ditch within the BSA. In the Mojave Desert, this is most likely to occur between November and April, and during the summer monsoon season from July to September. When precipitation is occurring or surface water is present, Project work within the ephemeral ditch channel will be halted to minimize disturbance to aquatic resources and desert wildlife, which are most active during this critical time when water is available.

Timing/Implementation: *Prior to and During Project Construction*

Enforcement/Monitoring: *Contractor*

HYD-1: Following the completion of project activities, areas that have been disturbed by Project activities within the BSA will be re-graded to pre-construction conditions. Specifically, the sandy ephemeral ditch that flows under the new bridge will be re-graded so that natural water flow would be allowed to return through the Project area following the next precipitation event.

Timing/Implementation: *After Project Construction*

Enforcement/Monitoring: *Contractor*

Public Services (Section XV)

TRA-1: A Traffic Management Plan would be prepared prior to construction and be implemented during construction of the Project to reduce disruption of traffic patterns. Public information and awareness campaigns, motorist information strategies, and incident management strategies would alert the public of the temporary construction shoo-fly detours and the Project.

Timing/Implementation: *Prior to Project Construction*

Enforcement/Monitoring: *County*

5.0 LIST OF PREPARERS

5.1 List of Preparers

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{USDOT} https://fhwaapps.fhwa.dot.gov/bywaysp/StateMaps/Show/byway/2489

[Forest Service] U.S. Forest Service Department of Agriculture

2024. Wildfire Hazard Potential Classified Map. Available at: < https://research.fs.usda.gov/firelab/products/dataandtools/wildfire-hazard-potential> (accessed 12/16/25).

Appendix A:
Air Quality Construction Emissions Model

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 34 is not summed over overlapping phases.

Road Construction Emissions Model, Version 9.0.1

Daily Emission Estimates for -> NTH Bridge 85 Replacement				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Pounds)	**ROG (lbs/day)**	**CO (lbs/day)**	**NOx (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**SOx (lbs/day)**	**CO2 (lbs/day)**	**CH4 (lbs/day)**	**N2O (lbs/day)**	**CO2e (lbs/day)**
Grubbing/Land Clearing	0.61	12.93	1.93	100.11	0.11	100.00	20.89	0.09	20.80	0.02	2,075.22	0.58	0.04	2,102.01
Grading/Excavation	4.73	89.72	10.51	100.62	0.62	100.00	21.30	0.50	20.80	0.16	15,511.90	4.68	0.20	15,689.06
Drainage/Utilities/Sub-Grade	3.12	59.38	7.18	100.43	0.43	100.00	21.15	0.35	20.80	0.11	10,383.57	2.70	0.12	10,486.29
Paving	0.61	14.48	2.12	0.13	0.13	0.00	0.09	0.09	0.00	0.02	2,205.49	0.56	0.06	2,237.26
Maximum (pounds/day)	4.73	89.72	10.51	100.62	0.62	100.00	21.30	0.50	20.80	0.16	15,511.90	4.68	0.20	15,689.06
Total (tons/construction project)	0.14	2.65	0.32	3.76	0.02	3.74	0.79	0.02	0.78	0.00	456.60	0.13	0.01	461.63

Notes:

Project Start Year ->	2027
Project Length (months) ->	4
Total Project Area (acres) ->	7
Maximum Area Disturbed/Day (acres) ->	1
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	200	40
Grading/Excavation	12	1	30	30	1,120	40
Drainage/Utilities/Sub-Grade	0	0	0	0	720	40
Paving	0	6	0	30	320	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> NTH Bridge 85 Replacement				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	**ROG (tons/phase)**	**CO (tons/phase)**	**NOx (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**SOx (tons/phase)**	**CO2 (tons/phase)**	**CH4 (tons/phase)**	**N2O (tons/phase)**	**CO2e (MT/phase)**
Grubbing/Land Clearing	0.00	0.06	0.01	0.44	0.00	0.44	0.09	0.00	0.09	0.00	9.13	0.00	0.00	8.39
Grading/Excavation	0.08	1.58	0.18	1.77	0.01	1.76	0.37	0.01	0.37	0.00	273.01	0.08	0.00	250.50
Drainage/Utilities/Sub-Grade	0.05	0.91	0.11	1.55	0.01	1.54	0.33	0.01	0.32	0.00	159.91	0.04	0.00	146.50
Paving	0.00	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.56	0.00	0.00	13.40
Maximum (tons/phase)	0.08	1.58	0.18	1.77	0.01	1.76	0.37	0.01	0.37	0.00	273.01	0.08	0.00	250.50
Total (tons/construction project)	0.14	2.65	0.32	3.76	0.02	3.74	0.79	0.02	0.78	0.00	456.60	0.13	0.01	418.79

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Appendix B:
Biological Resources Technical Report
(Includes Aquatic Resources Delineation Report)

Biological Resources Technical Report

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project

San Bernardino County, California

Prepared For:

SAN BERNARDINO COUNTY

Department of Public Works
825 E 3rd Street
San Bernardino, CA 92415

Prepared By:

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March 2026

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Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
BMPs	Best Management Practices
BRTR	Biological Resources Technical Report
BMPs	Best Management Practices
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG	California Fish and Game
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	San Bernardino County
CWA	Clean Water Act
EO	Executive Order
FESA	Federal Endangered Species Act
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
NPS	National Park Service
NTH	National Trails Highway
Project	National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
U.S.	United States
U.S.C.	United States Code
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WDR	Waste Discharge Requirements
WOTUS	Waters of the United States

Executive Summary

San Bernardino County (County) is proposing to replace Bridge 85, which carries the National Trails Highway (NTH); formerly known as Route 66, over Lamego Ditch, with a concrete bridge as the National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project (Project). The Project would replace the existing two-lane timber bridge with a bridge designed to American Association of State Highway and Transportation Officials (AASHTO) standards for two-lane concrete bridges, guardrails, guardrail end treatments, and approaches.

This Biological Resources Technical Report (BRTR) is a review and evaluation of the potential for the Project to impact biological resources, including special-status species and protected habitat resources. A biological survey and habitat assessment were conducted within the proposed Project's Biological Study Area (BSA), which encompasses the construction area plus an approximate 50-foot buffer, to account for adjacent biological resources that may be affected by the Project.

Waters of the State that may be affected by the Project include Lamego Ditch, a man-made ephemeral ditch that collects and concentrates sheet flow from numerous rills and gullies on the north side of the roadway and conveys flows underneath the roadway. Lamego Ditch is not considered Waters of the United States (WOTUS) because it lacks a nexus to navigable or interstate waters. These findings are detailed in **Appendix A, Aquatic Resources Delineation Report**. The following regulatory permits will be required: a §1600 Streambed Alteration Agreement issued by the California Department of Fish and Wildlife (CDFW) and Waste Discharge Requirements (WDRs) issued by the Colorado River Basin Regional Water Quality Control Board (RWQCB).

The Project could temporarily impact approximately 2.04 acres of creosote bush scrub habitat and approximately 0.18 acres of the ephemeral Lamego Ditch, totaling approximately 2.22 acres of temporary impacts on the moderately disturbed habitats surrounding the bridge. Project disturbances in these areas could include earth-moving activities. Avoidance and minimization measures have been included in this BRTR to reduce the temporary impact of the Project on these communities to the greatest extent possible.

The Project could permanently impact approximately 0.22 acres of creosote bush scrub and approximately 0.02 acres of Lamego Ditch, totaling approximately 0.24 acres of permanent impacts on the moderately disturbed habitats surrounding the bridge. Permanent impacts could result from the excavation and fill placement along the NTH, and from the placement of rock slope protection (RSP) within the channel.

Database searches, literature review, habitat assessment, and biological surveys determined that there are 9 special-status plant and wildlife species with the potential to occur in the Project area: burrowing owl (*Athene cunicularia*), LeConte's thrasher (*Toxostoma lecontei*),

loggerhead shrike (*Lanius ludovicianus*), American badger (*Taxidea taxus*), desert kit fox (*Vulpes macrotis arsipus*), desert bighorn sheep (Ovis canadensis nelsoni), desert tortoise (*Gopherus agassizzii*), pointed dodder (*Cuscuta californica var. apiculate*), and small-flowered androstephium (*Androstephium breviflorum*). The Project will result in temporary disturbance of potentially suitable habitat for all 9 species; however, with the incorporation of avoidance and minimization measures, the Project is not anticipated to result in direct impacts on these species.

One invasive plant species was identified during the biological surveys. This species is schismus (*Schismuss p.*), which has a California Invasive Plant Council (Cal-IPC) invasive rating of Limited. Avoidance and minimization measures have been incorporated into the Project to maintain the high level of native species inhabiting the region and prevent the infestation of invasive species. With the implementation of these measures, the Project is not anticipated to further the spread of invasive species in the Mojave Desert ecosystem.

The County is the Project proponent and lead agency under the California Environmental Quality Act (CEQA).

Chapter 1. Introduction

The County is proposing to replace Bridge 85 over Lamego Ditch near the unincorporated community of Chambless in San Bernardino County, California (**Figure 1, Project Vicinity**; **Figure 2, Project Location**).

1.1. Project Purpose and Need

1.1.1. Purpose

The purpose of the Project is to replace the existing bridge in order to:

- Enhance safety on the NTH by providing new vehicular crossing for this structure;
- Provide a transportation facility consistent with County Standards, as well as local and regional plans.

1.1.2. Need

Full replacement of the bridge is needed because the current structure does not meet structural design standards.

1.2. Project Description

The County proposes to replace County Bridge No. 85 (state bridge 54C0289) over Lamego Ditch with a concrete bridge on the NTH (formerly known as Route 66). The NTH at Bridge No. 85 (Lamego Ditch) Replacement Project (Project) is located in the area of the unincorporated community of Chambless, in the County of San Bernardino. The existing bridge is approximately 40 feet long and 28 feet wide. It is situated approximately 4.3 miles east of Kelbaker Road, as shown in **Figure 1** and **Figure 2**.

The existing timber bridge was constructed in the 1930s and spans the man-made Lamego Ditch, which was created to convey flash-flood flows beneath the NTH. The timber trestle bridge is composed of simply supported timber stringer spans with a laminated timber deck supported on timber strutted abutments and bents consisting of timber piles. The bridge is approximately 28 feet wide with guardrails that do not meet current standards.

Through the years, the bridge has been modified by various maintenance and repair work to maintain public safety and extend the service life of the bridge. The proposed replacement will resolve existing bridge deficiencies. The existing two-lane bridge will be replaced with a concrete bridge designed to AASHTO standards for two-lane concrete bridges, guardrails, guardrail end treatments, and approaches.

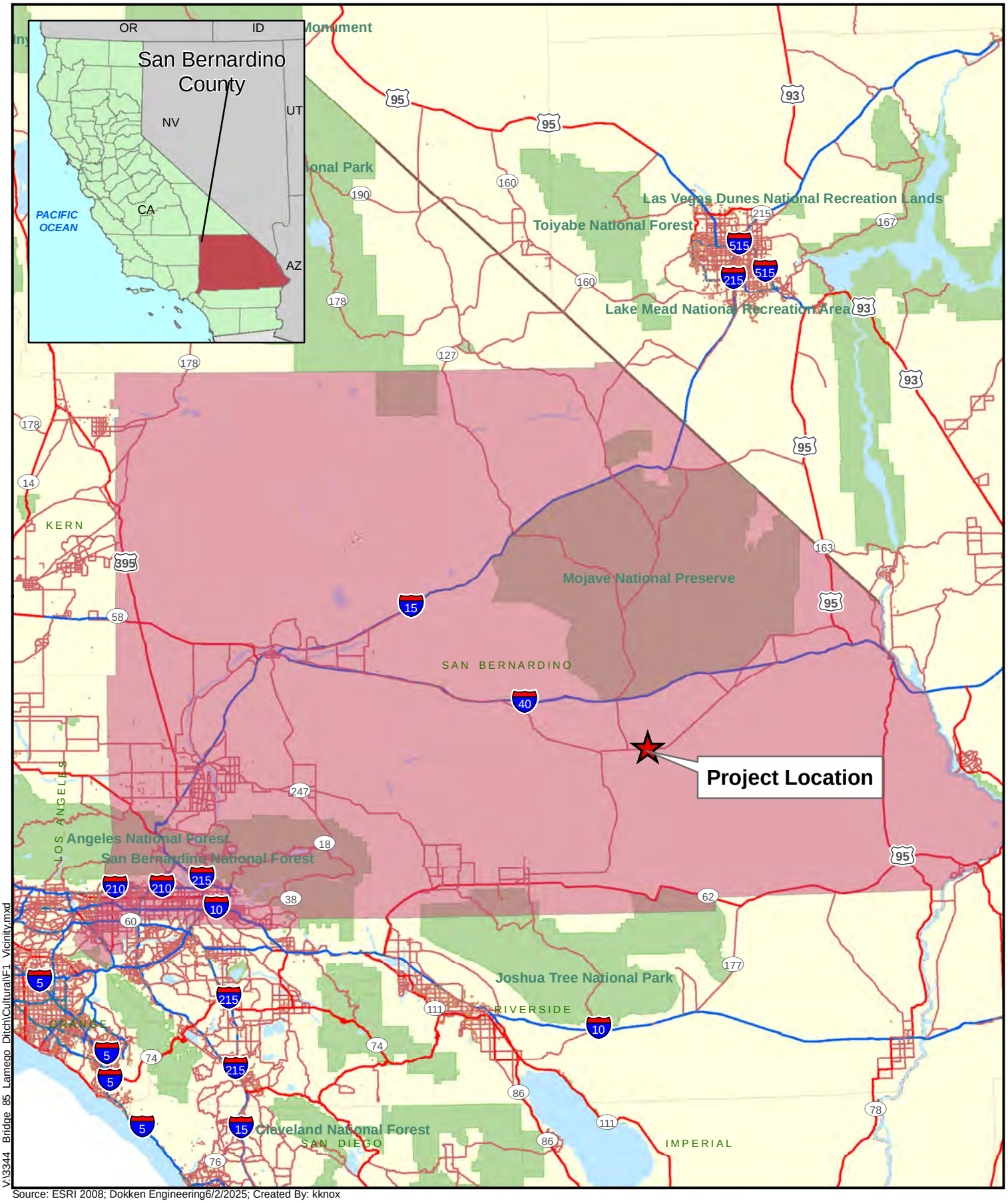


Figure 1
Project Vicinity

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

v:\1836_11thStBridge\Cultural\F2_Loc_10-12-10.mxd

Source: ESRI World Street Maps Online; Dokken Engineering 5/8/2025; Created By: amyd

0 1 2 3 4 Miles

Figure 2
Project Location

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project San Bernardino County, California

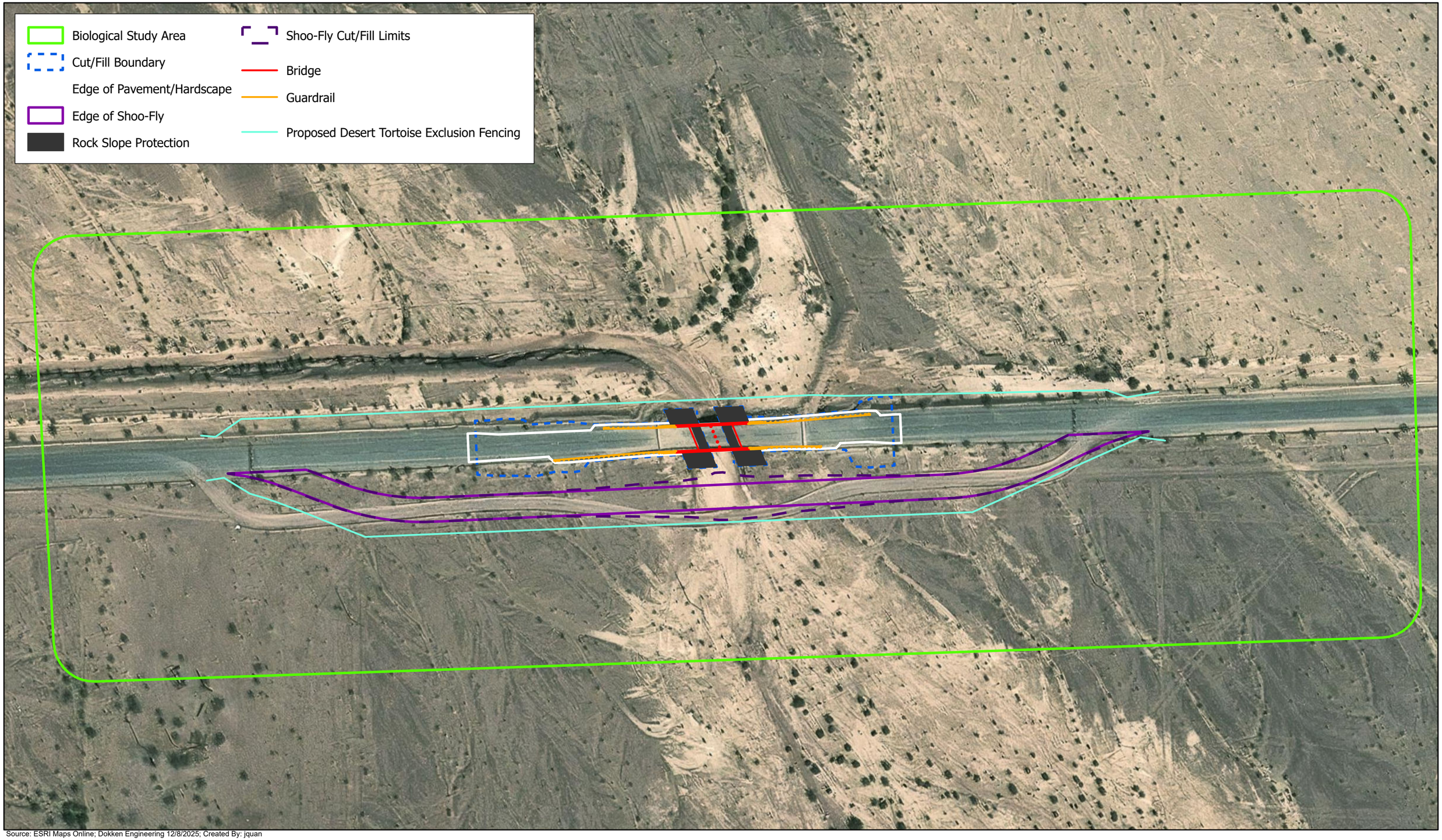
The existing soil is sandy and susceptible to scour, so pile extensions would be utilized, and the abutment foundation would be designed for scour. Additionally, rock slope protection will also be utilized to prevent scour. The bridge barrier would be a Type 85 concrete barrier with bicycle railing painted white, which is approved by the Manual for Assessing Safety Hardware and best matches the original railing. The bridge may be lengthened as needed to convey the storm flows. The replacement bridge would accommodate two 12-foot-wide lanes, two 3-foot-wide shoulders, and two 2-foot-wide railings. The vertical profile of the bridge will remain close to the existing profile, unless it is determined that additional vertical clearance is required to provide sufficient water conveyance beneath the bridge. It is anticipated that any necessary changes in vertical profiles would be 3 feet or less, with the elevation gradually conforming to the existing roadway elevations.

The NTH is posted at a speed limit of 55 miles per hour. The alignment would remain unchanged; however, up to 800 feet of pavement improvements on either side of the bridge may be needed to conform to the existing roadway vertical profile. Grading within the existing channel around the bridge may be needed to ensure sufficient storm conveyance and drainage of the area.

A temporary, parallel road (also known as a "shoo-fly") would be constructed at the bridge location to accommodate through-traffic during construction (**Figure 3, Project Features**). This parallel road may require placement of a culvert with rock slope protection. Construction of the bridge replacement and clean up of construction-related activities would be completed within one year. Based on weather conditions and construction activities, it is possible that there could be intermittent closures of the temporary parallel road. The temporary parallel road, including any culvert or rock slope protection, would be removed once construction of the replacement bridge and roadway approaches is complete.

Permanent acquisition of right-of-way is not anticipated; however, temporary construction easements may be needed to accommodate construction of the temporary detour. There are existing utilities that may require relocation as part of this project. Existing utilities may include an underground fiber optics line, overhead electrical line, telecommunications lines, water lines, and gas lines. All utility relocations would be included within the defined limits of the Project area.

The equipment needed for roadway construction is expected to include heavy construction earthmoving equipment, dump trucks, and pavers. The equipment needed for bridge construction is expected to include cranes, pile drivers, drill rigs, excavators, concrete trucks, and concrete pumps. This Project is funded with local funds. The County is the lead agency responsible for completing CEQA compliance.



Source: ESRI Maps Online; Dokken Engineering 12/8/2025; Created By: jquan

0 110 220 Feet

Figure 3
Project Features

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

Chapter 2. Study Methods

2.1. Regulatory Requirements

This section describes the general federal, state, and local plans, policies, and laws that are relevant to biological resources within the BSA.

2.1.1. Federal Regulations

2.1.1.1. Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 [16 United States Code (U.S.C.) section 1531 et seq.] provides for the conservation of endangered and threatened species listed pursuant to Section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. The FESA prohibits "take" of listed species and requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) if their actions would affect listed species.

2.1.1.2. Clean Water Act

The Clean Water Act (CWA) was enacted as an amendment to the Federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to Waters of the U.S. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The CWA empowers the U.S. Environmental Protection Agency to set national water quality standards and effluent limitations and includes programs addressing both point-source and nonpoint-source pollution. Point-source pollution originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Nonpoint-source pollution originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless they are specifically authorized by a permit; permit review is the primary regulatory tool of the CWA.

Section 401

The Colorado River Basin RWQCB has jurisdiction under Section 401 of the CWA and regulates any activity that may result in a discharge to surface waters. Typically, the areas subject to jurisdiction of the Colorado River Basin RWQCB coincide with waters of the U.S., including any wetlands. The Colorado River Basin RWQCB also asserts authority over "waters

of the State" under WDRs, according to the Porter-Cologne Water Quality Control Act. The proposed Project would require WDRs from the Colorado River Basin RWQCB.

Section 402

The California State Water Resources Control Board (SWRCB) regulates construction projects that involve ground disturbance of 1 acre or greater. These projects must obtain coverage under the SWRCB General Permit for Storm Water Discharges Associated with Construction Activity (i.e., General Construction Permit). Operators of regulated construction sites are required to develop a Stormwater Pollution Prevention Plan; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the General Construction Permit.

Section 404

The U.S. Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into WOTUS. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations).

2.1.1.3. Executive Order 13186: Migratory Bird Treaty Act

Executive Order (EO) 13186 (signed January 10, 2001) directs each federal agency taking actions that could adversely affect migratory bird populations, to work with USFWS to develop a Memorandum of Understanding that will promote the conservation of migratory bird populations. Protocols developed under the Memorandum of Understanding will include the following agency responsibilities:

- Avoid and minimize, to the maximum extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- Restore and enhance habitat of migratory birds, as practicable; and
- Prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist federal agencies in their efforts to comply with the Migratory Bird Treaty Act (MBTA) [50 Code of Federal Regulations (CFR) 10 and 21] and does not constitute any legal authorization to take migratory birds. Take is defined under the MBTA as "the action of or attempt to pursue, hunt, shoot, capture, collect, or kill" (50 CFR 10.12) and

includes intentional take (i.e., take that is the purpose of the activity in question) and unintentional take (i.e., take that results from, but is not the purpose of, the activity in question).

2.1.2. State Regulations

2.1.2.1. California Environmental Quality Act

CEQA is a state law created to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and to work to reduce these negative environmental impacts. The County is the CEQA lead agency for this Project.

2.1.2.2. California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game (CFG) Code Section 2050 et seq.) requires the CDFW to establish a list of endangered and threatened species (Section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (Sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing).

CESA also requires CDFW to comply with CEQA (Pub. Resources Code Section 21000 et seq.) when evaluating incidental take permit applications (CFG Code Section 2081(b) and California Code Regulations, Title 14, section 783.0 et seq.), and the potential impacts the project or activity for which the application was submitted may have on the environment. CDFW's CEQA obligations include consultation with other public agencies that have jurisdiction over the project or activity [California Code Regulations, Title 14, Section 783.5(d)(3)]. CDFW cannot issue an incidental take permit if issuance would jeopardize the continued existence of the species [CFG Code Section 2081(c); California Code Regulations, Title 14, Section 783.4(b)].

2.1.2.3. California Fish and Game Code Section 1602: Lake or Streambed Alteration Agreement

Under CFG Code 1602, public agencies are required to notify CDFW before undertaking any project that will divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resources. These modifications are formalized in a Lake or Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

2.1.2.4. California Fish and Game Code Section 3503 and 3503.5 Birds and Raptors

CFG Code Section 3503 prohibits the destruction of bird nests and Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests.

2.1.2.5. California Fish and Game Code Section 3513 Migratory Birds

CFG Code Section 3513 prohibits the take or possession of any migratory non-game bird, as designated in the MBTA or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

2.1.2.6. Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. The act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to Waters of the State. Waters of the State include more than just WOTUS, such as groundwater and surface waters not considered WOTUS. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by WDRs and may be required even when the discharge is already permitted or exempt under the CWA.

The RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in an Action Area are contained in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired, and the standards cannot be met through point source or non-source point controls (National Pollutant Discharge Elimination System permits or WDRs), the CWA requires the establishment of total maximum daily loads which specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, Total Maximum Daily Loads, and National Pollutant Discharge Elimination System permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

2.2. Studies Required

2.2.1. Desktop Review

Online databases, including the USFWS Information for Planning and Consultation (IPaC) tool, CDFW California Natural Diversity Database (CNDDB), and California Native Plant Society (CNPS) Rare Plant Inventory, were reviewed to generate lists of special-status plant and wildlife species with the potential to occur in the vicinity of the proposed Project. These species lists are provided in **Appendix B, Species Lists**.

The Project is outside of NMFS's jurisdictional boundaries. There is no potential for species under NMFS's jurisdiction to occur within the BSA. Therefore, no coordination with NMFS is required for this Project.

2.2.2. Survey Methods

General biological surveys were conducted on May 15, 2025, by Dokken Engineering biologists Jenna Quan and Mark Fogiel. The surveying biologists are knowledgeable in plant identification and wildlife observation.

The lead surveying biologist, Mark Fogiel, has a Master of Science in Biology from San Francisco State University and 33 years of experience with biological resources, including botanical surveys, water delineations, and wildlife habitat assessments. Jenna Quan has a Bachelor of Science in Ecology, Evolution, and Biodiversity from the University of California, Davis, and 3 years of experience in biological resources and surveys. Biological survey efforts were conducted by walking meandering transects through the entire BSA (which included the Project work areas plus a radius of 50 to 100 feet) and scanning the area with binoculars, noting present plant and wildlife species, delineating the boundaries of aquatic resources, and classifying vegetation communities. The vegetation communities were classified using the Manual of California Vegetation, Second Edition (Sawyer et al. 2009). **Appendix A** provides more information about the methodology used for the aquatic resources delineation.

On September 23, 2025, HELIX Environmental Planning, Inc. (HELIX) biologists Dustin Baumbach and Gregory Garcia, both experienced in desert tortoise surveys, conducted focused surveys for desert tortoise within the BSA. The surveys were conducted during the tortoise's most active period (April through May and September through October) and when air temperatures were below 95ºF (35°C). The BSA used during the focused survey was the same as the BSA used for the general biological surveys. Clearly unsuitable habitat areas (e.g., the paved NTH) were excluded from the survey area.

The focused desert tortoise survey was conducted by walking parallel belt transects approximately 100 feet (30 meters) apart while surveying approximately 50 feet (15 meters) on each side of the transect line to achieve 100 percent cover. Biologists visually searched for above-ground tortoises (both out of burrows and within burrows but still visible), as well as tortoise sign (burrows, scat, carcasses, etc.). The survey areas were specifically inspected for desert tortoise sign, including live tortoises; shells, bones, scutes, and limbs; scat; burrows and pallets; tracks; eggshell fragments; courtship rings; and drinking sites and mineral licks. The *Desert Tortoise Field Manual* (USFWS 2009) was used to categorize the condition of sign. Mirrors were used to direct sunlight into holes, rock crevices, and other shaded areas to assist in determining the shape, depth, and other characteristics of potential desert tortoise burrows. A handheld global positioning unit was used to maintain the accuracy of transects and to record any desert tortoise sign and potential burrows observed during the survey. See **Appendix C, Focused Desert Tortoise Survey Results,** for more information about this survey.

Limitations that May Influence Results

Special-status wildlife species with the potential to occur in the BSA may be cryptic or spend much of their time underground and out of sight. The biological surveys were conducted during late May, a time when waterways in the Mojave Desert are generally dry. The absence of surface water presented challenges for delineating the boundaries of the aquatic resources within the BSA. Therefore, the biologists relied heavily on the presence of common aquatic resource indicators, including changes in elevation/slope, erosion, sediment sorting, changes in vegetation, and others described in the USACE field guide (Lichvar and McColley 2008). In areas where these field indicators were weak, current and historical aerial imagery and topographic maps were reviewed to delineate the resources.

2.2.3. Agency Coordination and Professional Contacts

2.2.3.1. California Department of Fish and Wildlife

On October 3, 2025, the CNDDB was queried for a list of species that occur within the following United States Geological Survey (USGS) 7.5-minute quadrangles: Cadiz, Cadiz Summit, Cadiz Lake NE, Castle Dome, Van Winkle Wash, Brown Buttes, Amboy, Bristol Lake, and Calumet Mine. The query results are included in **Appendix B**.

2.2.3.2. California Native Plant Society

On October 3, 2025, the CNPS Rare Plant Inventory was queried for a list of species that occur within the following United States Geological Survey (USGS) 7.5-minute quadrangles: Cadiz, Cadiz Summit, Cadiz Lake NE, Castle Dome, Van Winkle Wash, Brown Buttes, Amboy, Bristol Lake, and Calumet Mine (**Appendix B**).

2.2.3.3. United States Fish and Wildlife Service

On August 19, 2025, the USFWS IPaC system was queried for a list of federally protected resources that could occur in the general vicinity of the Project. On October 2, 2025, an official species list was obtained from USFWS of Federal Endangered and Threatened species that could occur in the vicinity of the proposed Project. On February 2, 2026, an updated official species list was obtained (**Appendix B**).

Chapter 3. Environmental Setting

The Project is in San Bernardino County, near the unincorporated community of Chambless. It is located just south of the Mojave National Preserve, within the Mojave Desert (DMoj) Jepson bioregion and the American Semi-Desert and Desert (322) U.S. Forest Service ecological section (Jepson Flora Project 2025; Cleland et al. 2007). The average annual high temperature is approximately 79 degrees Fahrenheit (°F). The region receives an average of 4.32 inches of precipitation annually (National Weather Service 2025). Most precipitation falls between November and April, with occasional snow accumulation in the surrounding higher elevation areas (National Park Service [NPS] 2023).

3.1. Description of the Existing Biological and Physical Conditions

The NTH runs through the Mojave Desert. The region is characterized by its unique geological processes, flora, and fauna. The following sections discuss the ecological conditions of the region and the biological resources present within the BSA.

3.1.1. Biological Study Area

The BSA was defined as the area necessary for Project activities, including space for staging and access, plus an approximate 50-foot buffer to capture any indirect impacts (such as auditory, visual, or air quality impacts) that may result from Project activities (**Figure 3**). Photo 1 in **Appendix D, Representative Photographs**, shows Bridge 85 within the BSA. The BSA encompasses approximately 21.9 acres. Land use in the BSA is OS – Open Space (San Bernardino County 2025a). The BSA is situated within the Cadiz USGS 7.5' quadrangle, within Township 6N, Range 13E, Section 36.

3.1.2. Physical Conditions

The BSA is located within an alluvial fan at the base of the Old Dad/Bristol Mountains. Alluvial material is deposited south of these mountains, producing large alluvial fans drained by a series of rills, shallow gullies, and ephemeral channels at the foot of the mountains. This geologic formation is also referred to as a bajada. The Natural Resource Conservation Service Soil Survey does not have available data for the BSA. Soils within the BSA were characterized during the field survey as poorly sorted colluvium consisting of unconsolidated rocks, gravel, and sand. While there are rocky mountainous ranges just north of the BSA, the topography of the BSA itself is relatively flat, gently sloping to the southeast. The elevation of the BSA ranges from approximately 745 feet above mean sea level near the southeast corner of the BSA to 760 feet above mean sea level near the northwest corner of the BSA.

3.1.3. Biological Conditions

The BSA is composed of three land cover types – ephemeral ditch, creosote bush scrub habitat, and disturbed/barren areas. These land cover types are summarized in **Table 1, Land Cover within the Biological Study Area**, and mapped in **Figure 4, Land Cover**. A complete list of the plant species observed within the BSA during field surveys is documented in section 3.1.4.

Table 1. Land Cover within the Biological Study Area

Land Cover Type	Area (Acres)	Percent of Biological Study Area
Creosote Bush Scrub	18.9	86%
Ephemeral Ditch	0.7	3%
Disturbed/Barren	2.3	11%
TOTAL	**21.9**	**100%**

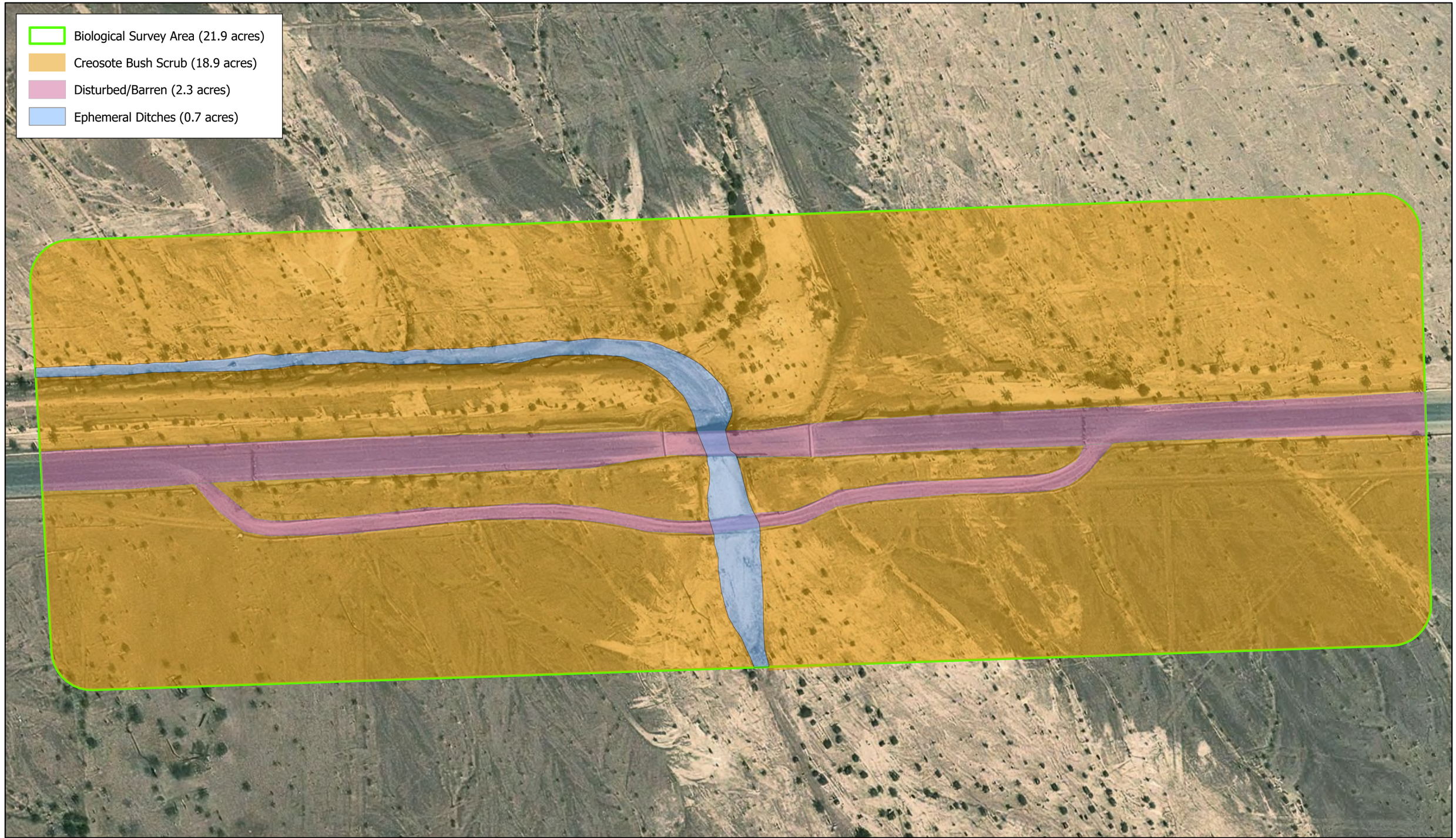
3.1.3.1. Ephemeral Ditch

The ephemeral ditch areas within the BSA comprise Lamego Ditch, which is a man-made channel that collects flow from numerous rills, gullies, and small ephemeral channels on the upslope side of the roadway to convey it under the roadway. This ditch only conveys surface water in direct response to rain events (USGS 2025). At the time of the survey, the ditch was not actively flowing, and there were no isolated pools of standing water. Vegetation within the ditch is sparse and includes both native and invasive low-growing species, as well as intermittent smoke trees (*Psorothamnus spinosus*). The absence of perennial or intermittent flow has facilitated the colonization of these species in the ditch, as they are well-adapted to disturbed, dry conditions.

The ephemeral Lamego Ditch comprises 0.7 acres (3%) of the BSA.

3.1.3.1. Creosote Bush Scrub

The BSA and the surrounding area are largely composed of creosote bush scrub (Sawyer et al. 2009). The dominant species in this community are creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). This community is shrub-dominated, with sparse shrub cover and a relatively uniform appearance. Individual creosote bush shrubs are spread out evenly across the landscape and mixed with other shrub and groundcover species. Other common shrubs include cheesebush (*Ambrosia salsola*) and rayless encelia (*Encelia frutescens*).



Source: World Imagery: Microsoft, Vantor; Dokken Engineering 12/4/2025; Created By: jquan

0 55 110
Feet

Figure 4
Land Cover
National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

This community persists across the open, gently sloping landscape of the alluvial fan and into the ephemeral ditches. The dominant and abundant species of creosote bush scrub are present throughout the BSA, despite slight changes in species composition that occur in proximity to ephemeral sources of water. Photo 3 in **Appendix D, Representative Photographs**, depicts the creosote bush scrub habitat within the BSA.

The BSA contains 18.9 acres (86%) of Creosote Bush Scrub land cover.

3.1.3.2. Disturbed/Barren

Within the BSA, the disturbed/barren land cover type includes the paved and unpaved roadways and road shoulders of the NTH, as well as the dirt shoo-fly situated just south of the NTH. This land cover type is unvegetated.

The BSA contains 2.3 acres (11%) of Disturbed/Barren land cover.

3.1.4. Invasive Species

One invasive plant species was observed within the BSA during survey efforts, Schismus (*Schismus sp.*), which has a Cal-IPC invasive rating of Limited. This species is an annual grass and a common groundcover species within the BSA, but it does not dominate over natives. The relative lack of invasive species within the BSA is indicative of the remote location of the Project and the harsh conditions of the desert. The species observed during the May 15, 2025 biological survey are outlined in **Table 2, Plant Species Observed**, which indicates those that are native and those that are non-native or invasive.

Table 2. Plant Species Observed

Common Name	Scientific Name	Native (N) / Non-Native (X)*
Cheesebush	*Ambrosia Salsola*	N
Creosote bush	*Larrea tridentata*	N
Narrow-leaved johnstonella	*Johnstonella angustifolia*	N
Rayless encelia	*Encelia frutescens*	N
Schismus	*Schismus sp.*	X [limited]
Smallseed sandmat	*Euphorbia polycarpa*	N
Smoke tree	*Psorothamnus spinosus*	N
White bur sage	*Ambrosia dumosa*	N

*Cal-IPC Invasive Rating

3.1.5. Wildlife

The majority of the BSA is adjacent to relatively undisturbed desert habitat. The existing bridge provides shade and cover for various wildlife species. During survey efforts, no wildlife

was observed within the BSA. During surveys of nearby bridges in the region with shared habitat features to the BSA, three wildlife species were observed within those survey areas – western side-blotched lizard (*Uta stansburiana elegans*), large milkweed bug (*Oncopeltus fasciatus*), and black harvester ant (*Veromessor pergandei*). Other local wildlife species that may be found in the BSA include typical Mojave Desert species such as the greater roadrunner (*Geococcyx californianus*), coyote (*Canis latrans*), black-tailed jackrabbit (Lepus californicus), and common kingsnake (*Lampropeltis getulas*) (NPS 2020).

3.1.6. Habitat Connectivity

The land in the BSA is generally flat and open; the existing NTH is the main barrier to wildlife passage. The NTH mainly affects small terrestrial species, such as the desert tortoise, that are more likely to be harmed by vehicle traffic. The BSA is situated within areas that are classified by the CDFW Terrestrial Connectivity Dataset as having Limited Connectivity Opportunity (CDFW 2025a).

3.1.7. Regional Species and Habitats and Natural Communities of Concern

Special-status plant and wildlife species are those that meet one or more of the following criteria: (1) have been listed or proposed for listing as threatened or endangered under the FESA; (2) have been listed or are candidates for listing under the CESA, or are protected under other state regulations; (3) have been designated as a Species of Special Concern or Fully Protected by CDFW; and (4) plants that have been assigned a status of 1, 2, or 3 by CNPS[1]. Prior to field surveys, online databases from USFWS, CNDDB, and CNPS were queried for the presence of potential threatened, endangered, rare, or other special-status species (**Appendix B**). While no special-status species were observed during the biological survey on May 15, 2025, database search results identified 12 special-status wildlife species and 13 special-status plant species with the potential of occurring in the general vicinity of the BSA. **Table 3, Special-Status Species Potential**, includes a complete list of these special-status species along with a discussion and determination of each species' potential of occurring within the BSA. An analysis of habitat requirements, recorded observations, and field surveys determined that 9 special-status species have the potential to occur within the BSA. There are 7 animal species and 2 plant species that may be encountered, outlined below.

- Burrowing Owl (*Athene cunicularia*) — moderate potential to occur
- LeConte's thrasher (*Toxostoma lecontei*) — low potential to occur

[1] CNPS rank definitions are provided below:
1: Plant is rare and endangered in California and throughout its range
2: Plant is rare, threatened, or endangered in California but more common elsewhere in their range.
3: Plant about which needs more information; a review list.

- Loggerhead shrike (*Lanius ludovicianus*) — moderate potential to occur
- American badger (*Taxidea taxus*) — low potential to occur
- Desert kit fox (*Vulpes macrotis arsipus*) — moderate potential to occur
- Desert bighorn sheep (*Ovis canadensis nelsoni*) — low potential to occur
- Desert tortoise (*Gopherus agassizzii*) — low potential to occur
- Pointed dodder (*Cuscuta californica var. apiculata*) — low potential to occur
- Small-flowered androstephium (*Androstephium breviflorum*) — low potential to occur

Table 3. Potential for Special-Status Species to Occur in the Project Vicinity

Species	Status		General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
Bird Species					
Burrowing owl *Athene cunicularia*	FESA: CESA: CDFW:	-- CE SSC	The species inhabits arid, open areas with sparse vegetation cover, such as deserts, abandoned agricultural areas, grasslands, and disturbed open habitats. Can be associated with open shrub stages of pinyon-juniper and ponderosa pine habitats. Nests in old small mammal burrows but may dig its own burrow in soft soil. Nests are lined with excrement, pellets, debris, grass, and feathers. The species may use pipes, culverts, and nest boxes, and even buildings where burrows are scarce. Breeding occurs March through August (below 5,300 feet).	P	**Moderate Potential:** Despite the presence of potentially suitable habitat, there has only been one CNDDB occurrence within 10 miles of the BSA in the last 15 years. No individuals, burrows, or sign (scat, tracks, fur, feathers, pellets, eggshells. nesting material, etc.) were observed during biological surveys of the BSA. Similarly, no eBird or iNaturalist observations of the species have been documented within 20 miles of the BSA. However, due to the remote location of the BSA, documented occurrences, or a lack thereof, may be more representative of a snapshot in time than continuous data. The species has a moderate potential to occur due to the BSA's location within the known range of the species and the presence of potentially suitable habitat, balanced by a lack of observed individuals, both recent and historical, during desktop review and biological surveys of the BSA.
Golden eagle *Aquila chrysaetos*	FESA: CESA: CDFW:	-- -- FP	California supports resident and migratory overwintering individuals. This species inhabits a variety of habitats, including forests, canyons, shrublands, grasslands, and oak woodlands. Breeds	A	**Presumed Absent:** The BSA does not contain suitable cliffs or large trees required for the species' nesting habitat. No individuals were observed in the BSA during biological surveys, and there are no CNDDB occurrences within 15 miles of the BSA. While there are observed eBird and iNaturalist occurrences of the species within 10

Species	Status		General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
			between late January and August and nests on platforms of steep cliffs or in large trees.		miles of the BSA, the species may be presumed absent due to lack of suitable nesting habitat within the BSA.
LeConte's thrasher *Toxostoma lecontei*	FESA: CESA: CDFW:	-- -- SSC	Occurs in desert flats. Generally associated with areas of sparse saltbush, but also occurs within creosote bush flats where there are mesquites or cholla cactus. Breeds from December through March.	P	**Low Potential:** The BSA contains potentially suitable creosote brush habitat within the species' known geographic range. While there are no CNDDB, iNaturalist, or eBird occurrences within 10 miles of the BSA, occurrences have been recorded on all three databases across the greater landscape in a loose but even dispersal with regular gaps of 10 miles or more between occurrences. Due to the presence of potentially suitable habitat within the species' known range and broad dispersal across the landscape balanced with the lack of documented occurrences near the BSA and no individuals observed during biological surveys, the species has a low potential to occur.
Loggerhead shrike *Lanius ludovicianus*	FESA: CESA: CDFW:	-- -- SSC	Occur in open areas with short vegetation and well-spaced shrubs or low trees, especially species with spines or thorns. Often occur in agricultural fields, pastures, riparian areas, desert scrublands, and along mowed roadsides on fence lines and utility poles.	P	**Moderate Potential:** The BSA contains potentially suitable shrub habitat within the species' known range. While no individuals were observed in the BSA during biological surveys, an iNaturalist occurrence was documented in 2024 along the NTH, less than 3 miles west of the BSA. Because of the recency and proximity of this occurrence, and because it was recorded in habitat identical to that of the BSA, the species has a moderate potential to occur.

Species	Status		General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
Invertebrate Species					
Monarch butterfly *Danaus Plexippus*	FESA: CESA: CDFW:	PT -- --	This species' range includes the entire contiguous United States and parts of Mexico and Canada. The western population breeds and forages in the areas west of the Rocky Mountains and overwinters at over 400 sites along the coast of California. Suitable breeding and foraging habitat includes grasslands with plenty of milkweed (*Asclepias sp*.), which is the obligate larval host plant, and a diverse mosaic of flowering plants that bloom in the spring, summer, and fall. Overwintering habitat, which occurs only along the California coast, comprises trees on which butterflies can cluster, cool temperatures, sources of moisture (such as fog or damp soils), and nectar sources blooming in winter and early spring.	A	**Presumed Absent:** Despite being within the species' range, the BSA does not contain suitable breeding or foraging habitat for the species. There are no CNDDB occurrences within 10 miles of the BSA; however, the CNDDB only tracks occurrences of the overwintering population. There is one iNaturalist occurrence of the species documented on a hillside roughly 6.5 miles northwest of the BSA. However, this occurrence is located more than 700 feet higher in elevation than that of the BSA, and the hillside habitat where the species was observed is not emblematic of the lower elevation alluvial fan and desert floor habitat of the BSA. No individuals or milkweed (*Asclepias sp*.) host plants were observed during biological surveys of the BSA. Due to a lack of suitable host plants and habitat, the species may be presumed absent from the BSA.
Mammal Species					
American badger	FESA:	--	Occurs throughout most of California and is most	P	**Low Potential:** While the nearest CNDDB occurrences of the species are more than 20 miles

Species	Status		General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
Taxidea taxus	CESA: CDFW:	-- SSC	abundant in drier, open stages of shrub, forest, and herbaceous habitats. Require friable soils to dig burrows. Suitable burrowing habitat is generally characterized by dry areas with sparse overstory cover.		away, there is one iNaturalist occurrence within 7 miles of the BSA, which contains potentially suitable habitat. During biological surveys of the BSA, no individuals, burrows, or other signs were observed. However, due to the presence of potentially suitable habitat with connectivity to areas with documented occurrences, this species has low potential to occur in the BSA.
California leaf-nosed bat *Macrotis californicus*	FESA: CESA: CDFW:	-- -- SSC	Inhabits desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis communities. The species prefers deep mine tunnels or caves with high ceilings and sufficient space for flight as day roosts but may utilize buildings or bridges. Prefers roosts within rocky, rugged terrain in proximity to flats and washes for foraging. Gives birth from May to June (0-2,000 feet). The species lives in colonies of up to 500 individuals. Individuals typically disperse less than a mile from their colony to forage at night for insects. Females form separate maternal colonies in the summer, giving birth to a	P	**Presumed Absent:** The BSA contains suitable desert habitat with both washes and roosting habitat, but does not contain enough roosting habitat to support the large colony sizes associated with the species, which can reach up to 500 individuals. Additionally, individuals typically only forage within one mile of their colony, and there are no documented recent occurrences near the BSA. The nearest CNDDB occurrence is more than 30 years old and 11 miles away, and the nearest iNaturalist occurrences are more than 60 miles from the BSA. No individuals or signs were observed during biological surveys of the BSA. Despite the presence of potentially suitable habitat within the species' known range, the limited available roosting habitat within the BSA, distance to documented occurrences, and lack of observed individuals or signs during biological surveys, the species is presumed absent.

Species	Status		General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
			single young between September and November.		
Desert bighorn sheep *Ovis canadensis nelsoni*	FESA: CESA: CDFW:	-- -- FP	Inhabits rocky slopes and cliffs, canyons, washes, and alluvial fans. Generally found in open habitats and feed on a wide variety of desert plants, including cacti. In the summer, this species' distribution is often associated with scarce water sources.	P	**Low Potential:** There are multiple documented historical CNDDB and more recent iNaturalist occurrences of the species in the hilly areas just north of the BSA. However, due to the absence of a permanent water source and the low density of vegetation for foraging in the immediate BSA area, the species has a low potential to occur.
Desert kit fox *Vulpes macrotis arsipus*	FESA: CESA: CDFW:	-- FBM --	Occurs in open desert, on creosote bush flats, and amongst the sand dunes. Most sightings of the species occur in areas with less than 20 percent vegetation cover (NPS 2015).	P	**Moderate Potential:** The CNDDB does not track occurrences of this species; therefore, occurrence data for this species is limited. Furthermore, there are no occurrences of this species recorded on iNaturalist in the Project vicinity, and no individuals or signs were observed during biological surveys of the BSA. However, because suitable foraging habitat occurs within the BSA, which is within the species known range, this species has moderate potential to occur.
Pallid bat *Antrozous pallidus*	FESA: CESA: CDFW:	-- -- SSC	Uses caves, crevices, mines, and occasionally hollow trees and buildings for day roosting. Suitable roosts are those that protect bats from high temperatures. Night roosts may be in more open sites, such as porches and open buildings. Likely to use	A	**Presumed Absent:** Despite being within the species' geographic range, there are no documented CNDDB or iNaturalist occurrences within 30 miles of the BSA. None of the nearest occurrences are recent, as the CNDDB occurrences are all more than 30 years old and the nearest iNaturalist observation is 9 years old. Additionally, no individuals or signs were observed during biological surveys of the BSA. Due to a lack of

Species	Status		General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
			rock crevices as hibernation sites. Generally occurs near water.		suitable habitat, including perennial bodies of water, and a lack of either recent or nearby occurrences, the species may be presumed absent.
Reptile Species					
Desert tortoise *Gopherus agassizzii*	FESA: CESA: CDFW:	T E --	Species inhabits a variety of habitats, from flats and slopes within creosote bush scrub at lower elevations to rocky slopes in blackbrush scrub and juniper woodland at higher elevations. Generally occurs within Mojavean desert scrub and Sonoran desert scrub communities. Species prefers creosote bush scrub with a high diversity of perennials and high production of ephemeral plant species. Requires friable soil for burrow and nest construction, but adequately firm soil to prevent burrow collapse. Feeding activity is very short and occurs in the spring. Mating occurs in March and April, with eggs laid in May to July at the openings of burrows. Prefers elevations	P	**Low Potential:** While the BSA contains potentially suitable creosote bush scrub habitat, the BSA's elevation of approximately 750 feet does not align with the species' preferred elevation of 1,000-3,000 feet. The species has the potential to utilize lower elevation habitat, but the two nearest documented occurrences (one 2008 CNDDB occurrence approximately10 miles north of the BSA and one 2023 iNaturalist occurrence approximately 5 miles northwest of the BSA) are both located in upslope environments higher than 1,000 feet, distinct from the valley floor alluvial fan environment of the BSA. Because the BSA is within this species' range and potentially suitable habitat occurs, there is low potential for this species to occur.

Species	Status		General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
			at 1,000-3,000 feet but has been documented from below sea level to 7,300 feet.		
Mojave fringe-toed lizard *Uma scoparia*	FESA: CESA: CDFW:	-- -- SSC	A diurnal lizard species that lives in areas with fine, windblown sand. Known to burrow underground in sand from November to February. Inhabits sparsely vegetated, sandy, arid areas, such as dunes, flats with sandy hummocks, washes, and riverbanks. Uses bushes or sandhills for cover. Breeds from May to July (300-3,000 feet).	P	**Presumed Absent:** The BSA contains potentially suitable sparsely vegetated, arid flats and washes within the species' known range. However, the only CNDDB occurrences are historic and more than 10 miles away. The nearest iNaturalist occurrence was documented more than 6 miles from the BSA in 2015. Additionally, no individuals or signs were observed during biological surveys. Despite the presence of potentially suitable habitat within the species' known range, the lack of nearby or recently documented occurrences supports a presumed absent determination.
Plant Species					
Clokey's cryptantha *Cryptantha clokeyi*	FESA: CESA: CNPS:	-- -- 1B.2	An annual herb inhabiting rocky and gravelly slopes in desert woodland, creosote bush scrub, and Mojavean desert scrub communities. Blooms in April (2,380-4,480 feet).	A	**Presumed Absent:** The BSA lies below the species' known elevation range, and there are no CNDDB or iNaturalist occurrences within a 10-mile radius of the BSA. The BSA is distinctly different in ecotype from the rocky, sloped terrain that the species prefers, and no individuals were observed during biological surveys. Due to the lack of potentially suitable habitat and documented occurrences, the species may be presumed to be absent.
Desert beardtongue *Penstemon pseudospectabilis ssp. Pseudospectabilis*	FESA: CESA: CNPS:	-- -- 2B.2	A perennial herb inhabiting sandy or rocky washes within Mojavean desert scrub and Sonoran desert scrub	P	**Presumed Absent:** While the BSA lies within the species' known range and contains potentially suitable habitat, there are no documented CNDDB occurrences or iNaturalist occurrences within 10

Species	Status		General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
			communities. Flowers January-May (260-6,350 feet).		miles of the BSA. No individuals were observed during biological surveys of the BSA. Due to the lack of documented occurrences, the species may be presumed to be absent.
Emory's crucifixion-thorn *Castela emoryi*	FESA: CESA: CNPS:	-- -- 2B.2	A perennial deciduous shrub inhabiting gravelly, dry washes in playas, creosote bush scrub, Mojavean desert scrub, and Sonoran desert scrub. Blooms June-July (295-2,380 feet).	P	**Presumed Absent:** While the BSA lies within the species' known range and contains potentially suitable habitat, there are no recent CNDDB occurrences or iNaturalist occurrences within 10 miles of the BSA. No individuals were observed during biological surveys of the BSA. Due to the lack of recent occurrences, the species may be presumed to be absent from the BSA.
Glandular ditaxis *Ditaxis claryana*	FESA: CESA: CNPS:	-- -- 2B.2	A perennial herb inhabiting sandy soils of creosote bush scrub, desert wash, Mojavean desert scrub and Sonoran desert scrub communities. Blooms December-March (0-1,525 feet).	P	**Presumed Absent:** The BSA lies within the species' known range and contains potentially suitable creosote bush scrub. However, there are no iNaturalist occurrences and only one CNDDB occurrence within 10 miles of the BSA. The documented occurrence is from 2007 and is more than 5 miles away from the BSA, located on a rocky slope distinct from the valley floor alluvial fan of the BSA. No individuals were observed during biological surveys of the BSA. Due to a lack of recent nearby occurrences, the species may be presumed to be absent.
Granite Mountains monardella *Monardella mojavensis*	FESA: CESA: CNPS:	-- -- 1B.3	A shrub that occurs in washes and adjacent fans within Mojavean desert scrub and pinyon/juniper woodland habitats. Usually occurs in granitic soils; rarely occurs on limestone or	A	**Presumed Absent:** The BSA is within the species' known geographic range, but lies below its known elevation range. There are no CNDDB or iNatualist occurrences within 10 miles of the BSA, and no individuals were observed during biological surveys of the BSA. Due to a lack of documented occurrences and the BSA's location outside of the

Species	Status		General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
			carbonate substrates. Blooms between May and August and occurs between 2,625 and 5,580 feet above mean sea level.		species' elevation range, the species may be presumed to be absent.
Harwood's eriastrum *Eriastrum harwoodii*	FESA: CESA: CNPS:	-- -- 1B.2	An annual herb that occurs in desert dune habitats between 410 and 3,000 feet above mean sea level.	A	**Presumed Absent:** The BSA lies within the species' known geographic range but does not contain potentially suitable desert dune habitat. There are no CNDDB or iNaturalist occurrences within 10 miles of the BSA, and no individuals were observed during biological surveys of the BSA. Due to a lack of suitable habitat and documented occurrences, the species may be presumed to be absent.
Latimer's woodland-gilia *Saltugilia latimeri*	FESA: CESA: CNPS:	-- -- 1B.2	An annual herb that is typically found growing in granitic soils within chaparral, Mojavean desert scrub, and pinyon/juniper habitats between 1,310 and 6,235 feet above mean sea level. The species sometimes grows in rocky and sandy soils as well as within washes. Blooms between March and June.	P	**Presumed Absent:** The BSA contains potentially suitable habitat, but lies just outside the species' known geographic range, and is more than 600 feet lower in elevation than the species' known elevation range. There are no CNDDB or iNaturalist occurrences within 10 miles of the BSA and no individuals were observed during biological surveys of the BSA. Due to the BSA's location outside the species' known elevation and geographic ranges, and lack of documented occurrences, the species may be presumed absent.
Orocopia mountains spurge *Euphorbia jaegeri*	FESA: CESA: CNPS:	-- -- 1B.1	A perennial shrub inhabiting gravelly, rocky crevices in hillsides or arroyos, in granitic, carbonate or metamorphic soils. Inhabits Mojavean desert scrub	A	**Presumed Absent:** The BSA lacks potentially suitable habitat and lies below the species' known elevation range. There are documented CNDDB and iNaturalist occurrences within 10 miles of the BSA, however those occurrences were observed in upslope rocky areas distinct from the valley floor

Species	Status		General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
			communities and blooms October-May (1,970-2,790 feet).		alluvial fan of the BSA. No individuals were observed during biological surveys of the BSA. Due to a lack of potentially suitable habitat and elevation range, the species may be presumed to be absent.
Pointed dodder *Cuscuta californica* var. *apiculate*	FESA: CESA: CNPS:	-- -- 3	A parasitic annual vine that grows on sandy soils within Mojavean and Sonoran desert scrub habitats from sea level up to 1,640 feet above mean sea level. Blooms from February through August.	P	**Low Potential:** The BSA lies within the species' known geographic and elevation ranges and contains potentially suitable habitat. While there have been no CNDDB occurrences or iNaturalist occurrences within 10 miles of the BSA, there is a Calflora occurrence from 2009 in identical habitat, less than 10 miles west of the BSA and directly adjacent to the NTH . No individuals were observed during biological surveys of the BSA. However, this species has low potential to occur owing to the presence of potentially suitable habitat and nearby documented occurrences.
Small-flowered androstephium *Androstephium breviflorum*	FESA: CESA: CNPS:	-- -- 2B.2	A perennial bulbiferous herb inhabiting sandy or rocky soils of desert dunes and Mojavean desert scrub bajadas communities. Flowers March-April (720-2,625 feet).	P	**Low Potential:** The BSA contains potentially suitable sandy and rocky soils within the species' known elevation and geographic range. While there are no CNDDB occurrences or iNaturalist occurrences within 10 miles of the BSA, there are documented CNDDB occurrences to the east and west of the BSA just outside this radius in roadside alluvial fan environments similar to that of the BSA. No individuals were observed in the BSA during biological surveys, but due to the BSA's potentially suitable habitat and similarity to that of known occurrences somewhat close by, the species may be presumed to have low potential to occur.

Species	Status		General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
Spiny cliff-brake *Pellaea truncata*	FESA: CESA: CNPS:	-- -- 2B.2	A perennial rhizomatous herb that blooms between April and June in pinyon and juniper woodland habitats. Generally grows in granitic, rocky, or volcanic soils between 3,935 and 7,055 feet above mean sea level.	A	**Presumed Absent:** The BSA is more than 3,000 feet below the species' typical elevation range, and no CNDDB or iNaturalist occurrences have been documented within 10 miles of the BSA. No individuals were observed during biological surveys. The species is presumed absent due to a lack of occurrences and the BSA's location outside the species' potentially suitable elevation range.
Stephen's beardtongue *Penstemon stephensii*	FESA: CESA: CNPS:	-- -- 1B.3	A perennial herb that blooms between April and June in Mojavean desert scrub and pinyon/juniper woodland habitats. Typically grows in carbonate, rocky substrates between 3,805 and 6,070 feet above mean sea level.	A	**Presumed Absent:** The BSA is below the species known elevation range by more than 3,000 feet and no occurrences have been documented by CNDDB or iNaturalist within 10 miles of the BSA. The species may be presumed absent due to lack of nearby occurrences and the BSA's location outside the species' potentially suitable elevation range.
White-margined beardtongue *Penstemon albomarginatus*	FESA: CESA: CNPS:	-- -- 1B.1	A perennial herb that blooms between March and June in stabilized desert dunes and Mojavean desert scrub habitats. Generally grows between 2,035 and 3,495 feet above mean sea level.	P	**Presumed Absent:** While the BSA is within the species' known geographic range, the BSA is below the species' typical elevation range. There have been no iNaturalist occurrences within 10 miles of the BSA, and the only CNDDB occurrence within this radius is historic. No individuals were observed during biological surveys of the BSA. The species may be presumed absent due to the BSA's elevation and a lack of occurrences.

Table Notes

Federal Designations (FESA)
- **E:** Endangered
- **PT:** Proposed Threatened
- **T:** Threatened

State Designations (CESA)
- **CE:** Candidate Endangered
- **E:** Endangered
- **FBM:** Species protected under Title 14 of the California Code of Regulations (Fur-Bearing Mammals)
- **T:** Threatened

Species	Status	General Habitat Description	Habitat Present?	Potential for Occurrence and Rationale
Other Designations **FP:** Fully protected **SSC:** Species of special concern **CNPS Designations** **1A:** Plant presumed extinct in California **1B:** Plant rare and endangered in California and throughout its range **2:** Plant rare, threatened, or endangered in California but more common elsewhere in its range **3:** Plant about which more information is needed (a review list) ***CNPS Plant Extension Meanings*** **_.1:** Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat) **_.2:** Fairly threatened in California (20-80% occurrences threatened) **_.3:** Not very endangered in California (<20% of occurrences threatened, or no current threats known)				
Habitat Potential Abbreviations **A:** Absent; no habitat is present. **P:** Habitat Present; Suitable habitat occurs within the BSA.				
Potential for Occurrence Criteria **Present:** Species was observed on site during a site visit or focused survey. **High Potential:** Habitat (including soils and elevation factors) for the species occurs within the BSA, and a known occurrence has been recorded within 5 miles of the site. **Moderate Potential:** Suitable habitat strongly associated with the species occurs on site; however, no records were found within the database search, or there are reasons to believe that nearby records may not reflect current site conditions (i.e., occurrences are old or site conditions have drastically changed since occurrences were recorded). **Low Potential:** Low-quality habitat (may include soil and elevation factors) for the species occurs within the BSA, and a known occurrence exists within 5 miles of the site. **Presumed Absent:** Focused surveys were conducted, and the species was not found; or, the species was returned during the database search, but habitat (including soils and elevation factors) does not exist on site, or the known geographic range of the species does not include the survey area.				
Sources: Calflora 2025, CDFW 2025b, CNPS 2025, Cornell Lab of Ornithology 2025a, iNaturalist 2025, USFWS 2025, Western Monarch Milkweed Mapper 2025. Zeiner et al., 188-1990				

Chapter 4. Discussion of Impacts on Biological Resources and Proposed Mitigation

4.1. Habitats and Natural Communities of Special Concern

Habitats are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) have been assigned sensitive ranks (i.e., S1, S2, or S3) by CDFW and are therefore considered to be Sensitive Natural Communities. The only natural community of special concern identified within the BSA is Lamego Ditch, which is regulated by CDFW and RWQCB.

4.1.1. Lamego Ditch

Lamego Ditch is an ephemeral ditch that conveys water beneath the bridge in the BSA during and immediately following storm events. Lamego Ditch is not under the jurisdiction of the USACE as a WOTUS, as it is not considered a traditionally navigable water nor is it a tributary to such a water. However, Lamego Ditch is under the jurisdiction of the RWQCB as a water of the State and under the jurisdiction of CDFW as a riverine habitat. Ephemeral ditches can be important resources for plants and wildlife in a desert system, where water is a scarce resource.

4.1.1.1. Lamego Ditch Survey Results

The bridge in the BSA carries the NTH over the ephemeral Lamego Ditch. During the May 15, 2025 biological surveys, the ephemeral ditch within the BSA was dry and sandy. Using a variety of indicators, as described further in **Appendix A**, the surveying biologists mapped the boundaries of the ditch. The main ditch at the bridge location is human-made.

4.1.1.2. Project Impacts on Ephemeral Ditches

The Project would temporarily impact approximately 0.18 acres of Lamego Ditch within the BSA (**Table 4, Project Impacts on Natural Communities, and Figure 5, Project Impacts**). Temporary impacts would occur from constructing a temporary road realignment with a low water crossing at the bridge, as well as staging and access areas for the installation of the new bridge. The ditch would be dry at the time of construction. Approximately 0.02 acres of permanent impacts on ephemeral ditches would result from the placement of RSP at the base of the bridge.

Table 4. Project Impacts on Natural Communities

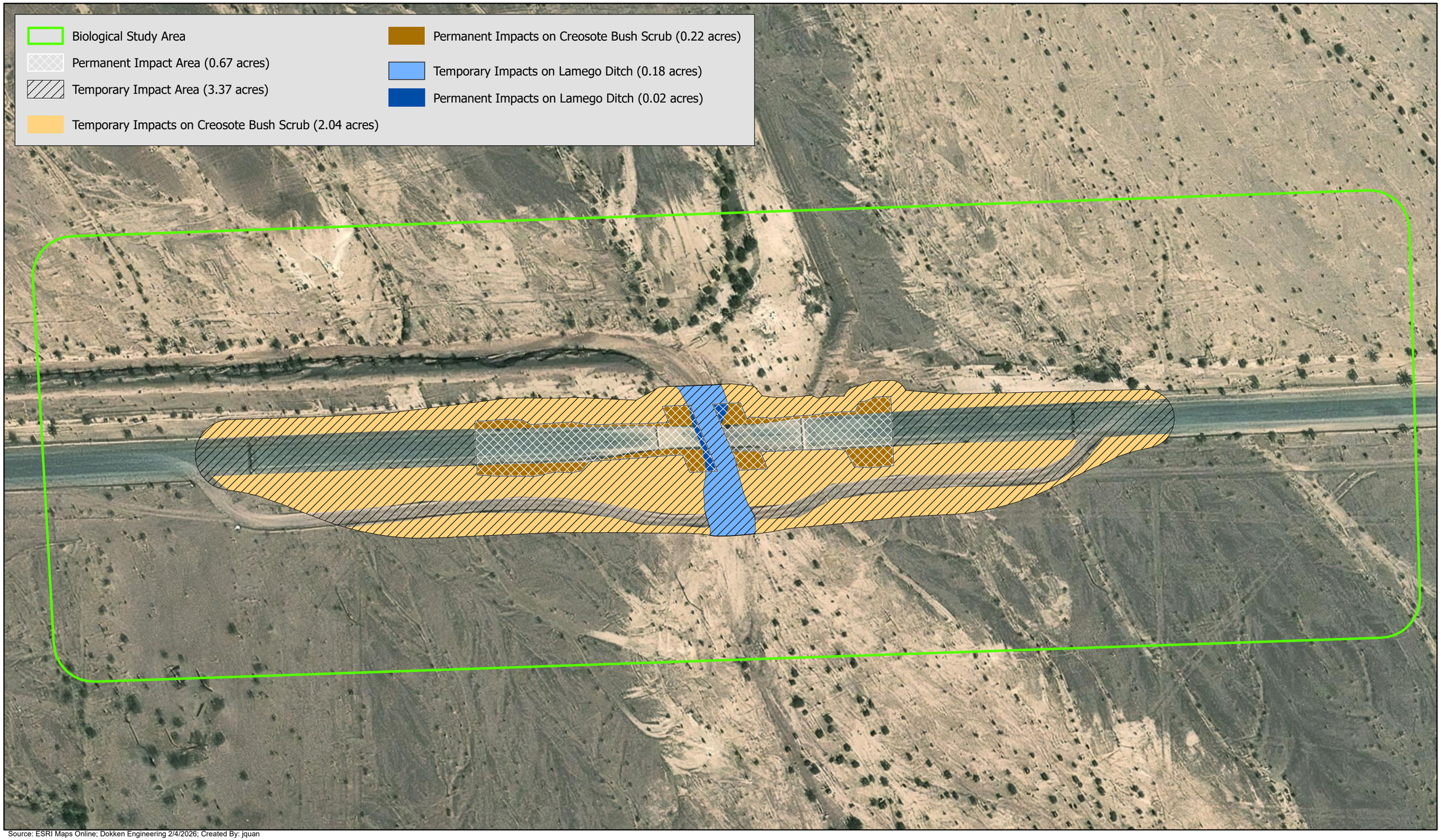
Habitat Type	Temporary Impact Area (acres)	Permanent Impact Area (acres)
Lamego Ditch	0.18	0.02
Creosote Bush Scrub	2.04	0.22
TOTAL	**2.22**	**0.24**

4.1.1.3. Avoidance and Minimization Measures

With the incorporation of the following avoidance and minimization measures, impacts to the ephemeral ditch system would be minimized to the greatest extent feasible.

BIO-1: Best Management Practices (BMPs):

- Disturbed soils would be covered by loose bulk materials or other materials (like waddles) to reduce erosion and runoff during rainfall events.
- Disturbed soils would be stabilized, through watering or other measures, to prevent the movement of dust at the Project area caused by wind and construction activities such as traffic and grading activities.
- All concrete curing activities would be conducted to minimize spray drift and prevent curing compounds from entering the waterway directly or indirectly.
- All construction materials, vehicles, stockpiles, and staging areas would be situated outside of ephemeral ditches as feasible. All stockpiles would be covered as feasible.
- All erosion control measures and storm water control measures would be properly maintained until final grading has been completed and permanent erosion control measures have been implemented.
- All disturbed areas would be restored to pre-construction contours so that hydrologic function of the ephemeral ditches is not permanently impacted.
- All construction materials would be hauled off-site after completion of construction.



Source: ESRI Maps Online; Dokken Engineering 2/4/2026; Created By: jquan

0 110 220 Feet

Figure 5
Project Impacts

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

BIO-2: Refueling or maintenance of equipment shall not be permitted to occur within the ephemeral ditch in the Project area. Refueling and maintenance must occur on the existing paved roadways rather than within natural communities when feasible. When refueling and maintenance activities occur in natural communities, plastic sheeting or other secondary containment measures will be used to capture accidental spills before they can contaminate the soil. Secondary containment must have a raised edge (e.g., sheeting wrapped around wattles).

BIO-3: Equipment will be checked daily for leaks and will be well-maintained to prevent lubricants and any other deleterious materials from entering natural environments.

BIO-4: A chemical spill kit must be kept on-site and available for use in the event of a spill.

BIO-5: Secondary containment consisting of plastic sheeting or other impermeable sheeting shall be installed underneath all stationary equipment located on pervious surfaces to prevent petroleum products or other chemicals from contaminating the soil or from spilling directly into ephemeral ditches. Secondary containment must have a raised edge (e.g., sheeting wrapped around wattles).

BIO-6: Project activities will not occur during any periods of active precipitation or when standing water or observable surface water flow is present in the ephemeral ditches within the BSA. In the Mojave Desert, this is most likely to occur between November and April, and during the summer monsoon season from July to September. When precipitation is occurring or surface water is present, Project work within the ephemeral ditch channel will be halted to minimize disturbance to aquatic resources and desert wildlife, which are most active during this critical time when water is available

4.1.1.4. Compensatory Mitigation

Approximately 0.02 acres of permanent impacts on Lamego Ditch would result from the placement of RSP at the base of the bridge. However, since the permanent impacts from the Project would be so minimal, compensatory mitigation is not proposed.

4.1.1.5. Cumulative Impacts on Ephemeral Ditches

There are 126 timber bridges on the NTH within San Bernardino County that are in need of rehabilitation or replacement (San Bernardino County 2025b). These bridges all carry the NTH across ephemeral ditches that are a part of the local alluvial fan system and are similar to the ditches found in the BSA. Thus, there is potential for current and future work on the NTH to contribute to cumulative impacts on ephemeral ditches. However, the Project would implement measures to avoid and minimize impacts on ephemeral ditches. Therefore, the Project would not contribute to cumulative impacts on ephemeral ditches.

4.2. Special-Status Plant Species

Plant species are considered to be special-status if they meet one or more of the following criteria: 1) are listed or proposed for listing under the FESA; 2) are listed or candidates for listing under the CESA; and/or 3) are assigned ranks of 1, 2, or 3 by the CNPS. Two special-status species – small-flowered androstephium and pointed dodder – were determined to have the potential to occur within the BSA.

4.2.1. Small-Flowered Androstephium

Small-flowered androstephium (*Androstephium breviflorum*) is a perennial bulbiferous herb in the family Themidaceae that inhabits sandy to rocky soil in open desert scrub at elevations of 720 to 2,625 feet. It has a CNPS rare plant rank of 2B.2, meaning that it is rare, threatened, or endangered in California, but common elsewhere. It is known in California from 123 total occurrences and is threatened by development of solar energy farms (CNPS 2025).

4.2.1.1. Small-Flowered Androstephium Survey Results

A CNDDB search was conducted prior to field surveys, which revealed no occurrences of small-flowered androstephium within a 10-mile radius of the BSA (CDFW 2025b). However, there are documented CNDDB occurrences to the east and west of the BSA just outside this radius in roadside alluvial fan environments similar to that of the BSA. The species was not observed during the May 15, 2025 survey; however, the small-flowered androstephium is a bulbiferous herb that flowers from March to April and would only be observable above ground during that period. There is suitable creosote bush scrub habitat within the BSA that the species could inhabit, indicating a low potential for the small-flowered androstephium to occur within the BSA.

4.2.1.2. Project Impacts on Small-Flowered Androstephium

Small-flowered androstephium has a low potential to occur within the BSA. Project activities such as staging, grading, and vegetation removal could cause temporary or permanent impacts on this species and its habitat.

4.2.1.3. Avoidance and Minimization Measures

With the implementation of the following avoidance and minimization measures, impacts on small-flowered androstephium are not anticipated.

BIO-7: An environmental awareness training shall be conducted prior to the onset of Project work for all construction personnel discussing the special-status plant and wildlife species with the potential to occur in the BSA. The training will also discuss how to proceed if there are any encounters of special-status species within the work area, as well as measures and BMPs that will be implemented to avoid impacts on such species.

BIO-8: During the ideal blooming period (March – April) prior to the beginning of construction activities, a rare plant survey will be conducted by a biologist. If individuals or populations of rare plants are observed within the BSA during this survey, the area around the rare plants will be marked with high-visibility Environmentally Sensitive Area fencing. Project activities will not be permitted to encroach upon the fencing, and vegetation removal will not be authorized within the boundaries of said fencing.

BIO-9: All vegetation removal will be minimized to the greatest extent feasible. Trees and shrubs shall be trimmed, rather than removed, unless absolutely necessary for Project activities.

BIO-10: Prior to the initial arrival at the first bridge of the Project and prior to leaving at the completion of construction, equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.

4.2.1.4. Compensatory Mitigation

With the implementation of avoidance and minimization measures **BIO-7** through **BIO-10**, direct Project impacts on small-flowered androstephium are not anticipated. Compensatory mitigation is not proposed.

4.2.1.5. Cumulative Impacts on Small-Flowered Androstephium

There are 126 timber bridges on the NTH within San Bernardino County that need to be replaced or rehabilitated (San Bernardino County 2025b). Due to their locations, these projects may also have the potential to impact small-flowered androstephium or its habitat. However, the NTH overlaps with only a small portion of this species' range and is surrounded by habitat of similar or higher quality. Therefore, the limited habitat impacts that would occur as a result of these projects are expected to be negligible. The implementation of avoidance and minimization measures **BIO-7** through **BIO-10** would avoid Project impacts on small-flowered androstephium. Thus, cumulative impacts on the species would not occur.

4.2.2. Pointed Dodder

Pointed dodder (*Cuscuta californica* var. *apiculata*) is an annual herb or vine that parasitizes herbs in sandy soils in Mojavean and Sonoran desert scrub and blooms from February through August. It has a CNPS rare plant rank of 3, meaning that it is on the review list (CNPS 2025). While there are no CNDDB occurrences recorded for this species, there are 15 records on Calflora. These occurrences are concentrated mostly in San Bernardino County, with other occurrences recorded in Riverside and San Diego Counties (Calflora 2025).

4.2.2.1. Pointed Dodder Survey Results

Although there are no CNDDB records of this species, there is one Calflora occurrence, recorded in 2009, situated along the NTH on the border of the Amboy and Cadiz USGS 7.5-minute quadrangles. During the May 15, 2025, survey, the species was not observed within the BSA. However, there is suitable creosote bush scrub habitat within the BSA that the species could inhabit, and thus it was determined that the pointed dodder has a low potential to occur within the BSA.

4.2.2.2. Project Impacts on Pointed Dodder

Pointed dodder has low potential to occur within the BSA. Project activities such as staging, grading, and vegetation removal could result in temporary or permanent impacts on the pointed dodder.

4.2.2.3. Avoidance and Minimization Measures

With the implementation of avoidance and minimization measures **BIO-7** through **BIO-10**, direct impacts on the pointed dodder are not anticipated.

4.2.2.4. Compensatory Mitigation

With the implementation of avoidance and minimization measures **BIO-7** through **BIO-10**, direct Project impacts on pointed dodder are not anticipated. Thus, compensatory mitigation is not proposed.

4.2.2.5. Cumulative Impacts on Pointed Dodder

There are 126 timber bridges on the NTH within San Bernardino County that need to be replaced or rehabilitated (San Bernardino County 2025b). Due to their locations, these projects may also have the potential to impact pointed dodder or its habitat. However, the NTH overlaps with only a small portion of this species' range and is surrounded by habitat of similar or higher quality. Therefore, the limited habitat impacts that would occur as a result of these projects are expected to be negligible. The implementation of avoidance and minimization measures **BIO-7** through **BIO-10** would avoid Project impacts on pointed dodder. Thus, cumulative impacts on the species would be negligible.

4.3. Special-Status Animal Species

Animals are considered to be of special concern if they meet one or more of the following criteria: (1) have been listed or proposed for listing as threatened or endangered under the FESA; (2) have been listed or are candidates for listing under the CESA, or are protected under other state regulations; and/or (3) have been designated as a Species of Special Concern or Fully Protected by CDFW. Seven special-status animal species were found to have the potential to occur within the BSA: burrowing owl, LeConte's thrasher, loggerhead shrike, American badger, desert kit fox, desert bighorn sheep, and desert tortoise.

4.3.1. Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a small raptor that nests in underground burrows, often created by small mammals. It is a year-long resident of sparsely vegetated habitats like prairies, deserts, grasslands, and agricultural fields. While this species' range is large (covering much of North and South America), its populations have been declining for many years as a result of habitat loss. In California, burrowing owls have been eliminated or are nearly wiped out as a breeding species from nearly a third of their former range (Center for Biological Diversity 2024). In October 2024, the burrowing owl was listed as a candidate species under the CESA. The burrowing owl is not protected under the FESA.

Burrowing owls may be active during the day or night, but most frequently hunt during the day by perching at the entrance of their burrow. Breeding generally occurs from March through August, peaking in April and May; however, this season may shift depending on

climatic conditions. The main threats to this species are habitat loss and vehicular collisions (CDFW 1999).

4.3.1.1. Burrowing Owl Survey Results

The closest CNDDB occurrence of burrowing owl was recorded in 2010, approximately 10 miles southeast of the bridge (CDFW 2025b). The species was not observed during the May 15, 2025 survey; however, several small mammal/reptile burrows have been observed adjacent to similar bridges along NTH, confirming that the BSA does provide suitable habitat for this species. Although there are no nearby occurrences recorded on iNaturalist or eBird, and only one nearby CNDDB occurrence, the BSA is within the species' range and suitable habitat occurs; therefore, the burrowing owl has a moderate potential to occur in the BSA.

4.3.1.2. Project Impacts on Burrowing Owl

Should burrowing owls occur within the BSA during construction, they could be temporarily affected by the Project activities. Direct impacts on burrowing owls could occur if burrowing owls are occupying burrows that would be excavated or otherwise disturbed. Indirect impacts, such as noise and dust production caused by Project activities, could temporarily reduce the availability of suitable habitat for burrowing owls to occupy. It is anticipated that construction work would mostly occur within the existing roadway and outside of a suitable habitat for the burrowing owl. Furthermore, the implementation of measure **BIO-11** would avoid any take of/direct impacts on burrowing owl by requiring standard nesting bird and burrowing owl clearance surveys to occur prior to the start of construction to ensure that no occupied burrows would be affected by ground-disturbing activities. Areas temporarily disturbed by the shoo-fly construction would be regraded and scarified following construction, as described in avoidance and minimization measures **BIO-1** and **BIO-12**. Approximately 0.22 acres of suitable burrowing owl habitat (creosote bush scrub) would be permanently impacted by the removal and placement of fill along the length of the NTH at the bridge site. However, because similar or higher-quality habitat is abundant within and around the BSA, the limited permanent impacts on burrowing owl habitat are expected to have a negligible effect on the local population of owls.

4.3.1.3. Avoidance and Minimization Measures

With the implementation of the following avoidance and minimization measures, direct impacts on burrowing owl are not anticipated.

BIO-11: The construction contractor shall avoid removing any vegetation or performing structure demolition during the nesting bird season (January 15 to July 31). If either of these activities must occur within the nesting season, a pre-

construction nesting bird survey, which includes the burrowing owl, must be conducted no more than 3 days prior to the activity commencing. Survey methodology shall assure 100% visual coverage of the survey area – which shall include the Project work areas plus a 500-foot buffer, as property access allows – and will follow current accepted species survey methodology. Structure demolition or vegetation removal must occur within 3 days from the nesting bird survey.

A no-disturbance buffer will be established around any active nest of migratory birds and raptor species. Standard no-disturbance buffers of 100 feet for migratory birds and 300 feet for raptor species may be altered at the discretion of the Project biologist, based on species, location of the nest, and the biologist's expertise. The contractor must immediately stop work in the nesting area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the Project biologist and in coordination with the County) in the buffer area until a qualified biologist determines the nest is no longer active.

Should burrowing owl, active burrowing owl burrows, or sign thereof be identified within the survey area, the County and Project biologist will notify and coordinate with CDFW to determine if a plan is required to avoid, minimize, and/or mitigate any potential impacts

4.3.1.4. Compensatory Mitigation

The Project would result in temporary impacts to approximately 2.04 total acres of burrowing owl habitat. With the inclusion of measure **BIO-12**, temporarily impacted areas would be allowed to naturally return to pre-construction conditions. Because the anticipated permanent impacts would be so limited (0.22 acres), compensatory mitigation is not recommended at this time.

BIO-12: Following construction, the areas temporarily impacted by the shoo-fly construction will be scarified 6 inches deep to kick-start the site's natural cycle of plant recruitment. Scarification could be carried out using a disc, shallow ripper, or similar implement.

4.3.1.5. Cumulative Impacts

There are 126 timber bridges on the NTH within San Bernardino County that need to be rehabilitated or replaced (San Bernardino County 2025b). Much of the NTH runs across ephemeral ditches through creosote bush scrub habitat that is very similar to that found in

the BSA. Therefore, there is moderate potential for burrowing owls to occur in the region. Because of this, current and future work on the NTH may contribute to cumulative impacts on the burrowing owl. Additionally, rehabilitating/replacing these bridges would allow the NTH to reopen to the public, which could increase the potential for burrowing owl and other wildlife to be killed or injured by vehicle strikes. However, the NTH overlaps with only a small portion of this species' range and is surrounded by habitat of similar or higher quality. Therefore, the limited habitat impacts that would occur as a result of these projects are expected to be negligible, and individuals disturbed by increased vehicle traffic would likely be able to relocate to similar nearby habitat areas readily. Therefore, any cumulative impacts on the burrowing owl would be negligible.

4.3.2. LeConte's Thrasher

The LeConte's thrasher (*Toxostoma lecontei*) is a large, sand-colored songbird with a long tail and a long, curved bill. It is known to be elusive and generally occurs in flat, open desert areas dominated by creosote or in small arroyos. This species forages on insects and other arthropods by chasing prey on foot. Their breeding season begins in mid- to late-winter and lasts into late spring or early summer. LeConte's thrasher nests are generally built approximately 3 feet off the ground within cholla cactus or other thorny desert shrub (Cornell Lab of Ornithology 2025b; Audubon Society 2025).

The LeConte's thrasher is a CDFW Species of Special Concern. It is not protected under the FESA or CESA.

4.3.2.1. LeConte's Thrasher Survey Results

Although there are no CNDDB occurrences of the LeConte's thrasher recorded within 10 miles of the BSA, there are multiple eBird observations that have been recorded in the area surrounding the BSA in a loose but even dispersal with regular gaps of 10 miles or more between occurrences (CDFW 2025b, Cornell Lab of Ornithology 2025a). This species is known to be elusive, so occurrence data may underestimate its presence in a given area. While this species was not observed during the May 2025 survey, the survey confirmed that suitable desert flat habitat does occur within the BSA; therefore, there is low potential for this species to occur.

4.3.2.2. Project Impacts on LeConte's Thrasher

There is potential for the construction of the Project to result in both direct and indirect effects on the LeConte's thrasher, should it occur in the BSA during construction. Direct impacts could occur if vegetation removal or other ground disturbance were to occur during the nesting season, which is generally from January to June (Audubon Society 2025). Indirect

impacts such as noise and dust production caused by Project activities could temporarily reduce the availability of suitable habitat for LeConte's thrasher to occupy. However, construction work would mostly occur within the existing roadway, outside of suitable habitat for the LeConte's thrasher. Furthermore, the implementation of measure **BIO-11** would avoid any direct impacts on LeConte's thrasher by requiring standard nesting bird clearance surveys to occur prior to the start of construction to ensure that no occupied nests would be affected by ground-disturbing activities. Areas temporarily disturbed by the shoo-fly construction would be regraded and scarified following construction, as described in avoidance and minimization measures **BIO-1** and **BIO-12**. Approximately 0.22 acres of suitable LeConte's thrasher habitat (creosote bush scrub) would be permanently impacted by the removal and placement of fill along the length of the NTH within the BSA. However, because similar or higher-quality habitat is abundant within and around the BSA, the limited permanent impacts on LeConte's thrasher habitat are expected to have a negligible effect on the local population.

4.3.2.3. Avoidance and Minimization Measures

With the implementation of avoidance and minimization measure **BIO-11**, described in Section 4.3.1.3, direct impacts on the LeConte's thrasher are not anticipated.

4.3.2.4. Compensatory Mitigation

The Project would result in temporary impacts to approximately 2.04 total acres of the LeConte's thrasher habitat. With the inclusion of measure **BIO-12**, temporary impact areas would be allowed to return to pre-construction conditions. Because the anticipated permanent impacts would be so limited (0.22 acres), compensatory mitigation is not recommended at this time.

4.3.2.5. Cumulative Impacts

There are 126 timber bridges on the NTH within San Bernardino County that need to be rehabilitated or replaced (San Bernardino County 2025b). Much of the NTH runs across ephemeral ditches through desert wash and desert scrub habitat that is very similar to that found in the BSA. Therefore, there is low potential for LeConte's thrasher to occur in the region. Because of this, current and future work on the NTH may contribute to cumulative impacts on the LeConte's thrasher. Additionally, rehabilitating/replacing these bridges would allow the NTH to reopen to the public, which could increase the potential for LeConte's thrasher and other wildlife to be killed or injured by vehicle strikes. However, the NTH overlaps with only a small portion of this species' range and is surrounded by habitat of similar or higher quality. Therefore, the limited habitat impacts that would occur as a result

of these projects are expected to be negligible, and individuals disturbed by increased vehicle traffic would likely be able to relocate to similar nearby habitat areas readily. Therefore, any cumulative impacts on LeConte's thrasher would be less than significant.

4.3.3. Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is a medium-sized songbird that generally occupies open areas with short vegetation and well-spaced shrubs, particularly those with spines or thorns. In California, loggerhead shrikes are year-long residents within the Central Valley, south to the Mexican border, excluding mountainous areas. They often occur along roadsides with access to fence lines and utility poles to perch while hunting for prey. Because this species lacks the long talons of a raptor, it generally relies on the presence of thorny shrubs nearby to skewer its prey and allow for easy eating. Breeding generally begins in January or February and may extend into July. Nests are generally constructed in thorny vegetation (Shuford and Gardali 2008; Cornell Lab of Ornithology 2025c).

The loggerhead shrike is a CDFW Species of Special Concern. It is not protected under the FESA or CESA.

4.3.3.1. Loggerhead Shrike Survey Results

Although there are no nearby occurrences of this species recorded in the CNDDB, several are mapped on iNaturalist. The closest occurrence was recorded on the NTH less than 3 miles west of the BSA in 2024 (iNaturalist 2025). Despite no individuals being observed during the May 2025 survey, suitable habitat does occur within the BSA. Therefore, there is moderate potential for this species to occur.

4.3.3.2. Project Impacts on Loggerhead Shrike

There is potential for the construction of the Project to result in both direct and indirect effects on the loggerhead shrike, should it occur in the BSA during construction. Direct impacts could occur if vegetation removal or other ground disturbance were to occur during the nesting season, which is generally from January to July. Indirect impacts, such as noise and dust production caused by Project activities, could temporarily reduce the availability of suitable habitat for the loggerhead shrike to occupy. However, construction work would mostly occur within the existing roadway, outside of suitable habitat for the loggerhead shrike. Furthermore, the implementation of measure **BIO-11** would avoid any direct impacts on the loggerhead shrike by requiring standard nesting bird clearance surveys to occur prior to the start of construction to ensure that no occupied nests would be affected by ground-disturbing activities. Areas temporarily disturbed by the shoo-fly construction would be regraded and scarified following construction, as described in avoidance and minimization

measures **BIO-1** and **BIO-12**. Approximately 0.22 acres of suitable loggerhead shrike habitat (creosote bush scrub) would be permanently impacted by the removal and placement of fill along the length of the NTH within the BSA. However, because similar or higher-quality habitat is abundant within and around the BSA, the limited permanent impacts on loggerhead shrike habitat are expected to have a negligible effect on the local population.

4.3.3.3. Avoidance and Minimization Measures

With the implementation of avoidance and minimization measure **BIO-11**, described in Section 4.3.1.3, direct impacts on the loggerhead shrike are not anticipated.

4.3.3.4. Compensatory Mitigation

The Project would result in temporary impacts to approximately 2.04 total acres of loggerhead shrike habitat. With the inclusion of measure **BIO-12**, temporary impact areas would be allowed to return to pre-construction conditions. Because the anticipated permanent impacts would be so limited (0.22 acres), compensatory mitigation is not recommended at this time.

4.3.3.5. Cumulative Impacts

There are 126 timber bridges on the NTH within San Bernardino County that need to be rehabilitated or replaced (San Bernardino County 2025b). Much of the NTH runs across ephemeral ditches through desert scrub habitat that is very similar to that found in the BSA, therefore, there is moderate potential for loggerhead shrike to occur in the region. Because of this, current and future work on the NTH may contribute to cumulative impacts on the loggerhead shrike. Additionally, rehabilitating/replacing these bridges would allow the NTH to reopen to the public, which could increase the potential for loggerhead shrike and other wildlife to be killed or injured by vehicle strikes. However, the NTH overlaps with only a small portion of this species' range and is surrounded by habitat of similar or higher quality. Therefore, the limited habitat impacts that would occur as a result of these projects are expected to be negligible, and individuals disturbed by increased vehicle traffic would likely be able to relocate to similar nearby habitat areas readily. Therefore, any cumulative impacts on loggerhead shrike would be less than significant.

4.3.4. American Badger

The American badger (*Taxidea taxus*) is a medium-sized mammal that occurs in open habitats across much of North America. American badgers spend most of their time in underground burrows, where they shelter, rest, breed, and take refuge from the heat. They are nocturnal

and mostly active in the summer, during which time they hunt for prey (generally burrowing rodents) and dig new burrows. Female badgers generally give birth in the spring (NPS 2025).

The American badger is a CDFW Species of Special Concern. It is not protected under the FESA or CESA.

4.3.4.1. American Badger Survey Results

While the closest CNDDB occurrence is more than 20 miles from the BSA, there is an occurrence on iNaturalist that was recorded in the mountains less than 7 miles northwest of the BSA (CDFW 2025b, iNaturalist 2025). During the survey, suitable shrubby and herbaceous habitat was observed within and around the BSA, therefore there is low potential for this species to occur.

4.3.4.2. Project Impacts on American Badger

Should American badgers occur within the BSA during construction, they could be temporarily affected by the Project activities. Direct impacts on badgers could occur if badgers are occupying burrows that would be excavated or otherwise disturbed. Indirect impacts such as noise and dust production caused by Project activities could temporarily reduce the availability of suitable habitat for badgers to occupy. However, construction work would mostly occur within the existing roadway, outside of a suitable habitat for the badger. Furthermore, the implementation of measure **BIO-13** would avoid any direct impacts on the American badger by requiring pre-construction clearance surveys prior to the start of construction to ensure that no occupied burrows would be affected by ground-disturbing activities. Areas temporarily disturbed by the shoo-fly construction would be regraded and scarified following construction, as described in avoidance and minimization measures **BIO-1** and **BIO-12**. Approximately 0.22 acres of suitable American badger habitat (creosote bush scrub) would be permanently impacted by the removal and placement of fill along the length of the NTH within the BSA. However, because similar or higher-quality habitat is abundant within and around the BSA, the limited permanent impacts on American badger habitat are expected to have a negligible effect on the local population

4.3.4.3. Avoidance and Minimization Measures

The following avoidance and minimization efforts have been adapted from CDFW's recommendations provided for previous and concurrent projects within the County (CDFW 2024, CDFW 2025c). These measures would be implemented to minimize impacts on the American badger to the greatest extent feasible.

BIO-13: Biologists shall conduct pre-construction den surveys for desert kit fox and American badger 14 to 21 days and 24 hours before any vegetation removal

or ground-disturbing activities. Pre-construction surveys for desert kit fox and American badger will include all areas of direct disturbance, plus a 200-foot buffer, as property access allows. The locations of American badger and desert kit fox dens will be recorded. Current status and land use by the American badger and desert kit fox will be determined through the use of wildlife cameras, scopes, and tracking substrate.

Inactive and unoccupied dens within the Project work areas will be collapsed after their status has been determined through monitoring. Active dens will be monitored, and a qualified biologist will establish a 50-meter (165-foot) non-disturbance buffer during the non-breeding season and a 150-meter (500-foot) non-disturbance buffer during the breeding/pupping season (generally February 1 through May 15). The size of the buffer may be reduced if a qualified biologist determines that it is safe to do so without impacting the individual(s). Active burrows shall be avoided until they are confirmed unoccupied by a qualified biologist. Burrow occupancy will be determined using a tracking medium such as a diatomaceous earth or fine clay and infrared cameras placed at the entrance(s). If no tracks or evidence of activity is observed after 3 consecutive nights of monitoring, the burrow shall be scoped, excavated, and backfilled using nonpowered tools. If tracks or evidence of burrow occupancy is observed and the active den cannot be avoided with an adequate non-disturbance buffer, CDFW will be consulted to determine the course of action pertaining to exclusion efforts and passive translocation, which may include development of a management plan for CDFW's review and approval.

To guard against the spread of distemper and other diseases, equipment and tools used for burrow occupancy monitoring and excavation will be treated with a disinfectant that is proven effective. This includes, but is not limited to, accelerated hydrogen peroxide, potassium peroxymonosulfate, or a 1:20 dilution of household bleach. Fieldworker clothing will be washed in hot water and dried using a dryer. CDFW will be notified in dealing with injured, sick, or dead American badger or desert kit fox.

4.3.4.4. Compensatory Mitigation

The Project would result in temporary impacts to approximately 2.04 total acres of American badger habitat. With the inclusion of measure **BIO-12**, temporarily impacted areas would be allowed to return to pre-construction conditions. Because the anticipated permanent

impacts would be so limited (0.22 acres), compensatory mitigation is not recommended at this time.

4.3.4.5. Cumulative Impacts

There are 126 timber bridges on the NTH within San Bernardino County that need to be rehabilitated or replaced (San Bernardino County 2025b). Much of the NTH runs across ephemeral ditches through desert scrub habitat that is very similar to that found in the BSA, therefore, there is low potential for the American badger to occur in the region. Because of this, current and future work on the NTH may contribute to cumulative impacts on the American badger. Additionally, rehabilitating/replacing these bridges would allow the NTH to reopen to the public, which could increase the potential for the American badger and other wildlife to be killed or injured by vehicle strikes. However, the NTH overlaps with only a small portion of this species' range and is surrounded by habitat of similar or higher quality. Therefore, the limited habitat impacts that would occur as a result of these projects are expected to be negligible, and individuals disturbed by increased vehicle traffic would likely be able to relocate to similar nearby habitat areas readily. Therefore, any cumulative impacts on the American badger would be less than significant.

4.3.5. Desert Kit Fox

The desert kit fox (*Vulpes macrotis arsipus*) is a small mammal that occupies areas of open desert and creosote bush flats, generally with less than 20 percent vegetation cover. Kit foxes are carnivorous and generally hunt at night for birds, reptiles, and sometimes insects. Most of their time is spent in their dens, which can be up to 20 feet deep. Females generally begin searching for a birthing den in September and October and give birth to a litter of four or five pups in February or March. Once they leave their home range (generally the October following their births), pups may travel long distances (up to 20 miles) before settling down. Vehicle collisions are likely a greater contributor to fox mortality than predation (NPS 2015).

The desert kit fox is not protected under the CESA or FESA, nor is it a CDFW Species of Special Concern. It is protected under Section 460 of Title 14 of the California Code of Regulations, which prohibits the take of five furbearing mammals, including the desert kit fox.

4.3.5.1. Desert Kit Fox Survey Results

The CNDDB does not track occurrences of this species; therefore, occurrence data for this species is limited. There are no occurrences of this species recorded on iNaturalist in the Project vicinity. Although no kit foxes or signs of foxes were observed during the May 2025 biological survey, the BSA contains suitable habitat for this species. Therefore, there is moderate potential for this species to occur in the Project vicinity.

4.3.5.2. Project Impacts on Desert Kit Fox

Should desert kit fox occur within the BSA during construction, they could be temporarily affected by the Project activities. Direct impacts on kit foxes could occur if they are occupying burrows that would be excavated or otherwise disturbed. Indirect impacts, such as noise and dust production caused by Project activities, could temporarily reduce the availability of suitable habitat for kit foxes to occupy. However, construction work would mostly occur within the existing roadway, outside of a suitable habitat for the kit fox. Furthermore, the implementation of measure **BIO-13** would avoid any direct impacts on the kit fox by requiring pre-construction clearance surveys prior to the start of construction to ensure that no occupied burrows would be affected by ground-disturbing activities. Areas temporarily disturbed by the shoo-fly construction would be regraded and scarified following construction, as described in avoidance and minimization measures **BIO-1** and **BIO-12**.. Approximately 0.22 acres of suitable desert kit fox habitat (creosote bush scrub) would be permanently impacted by the removal and placement of fill along the length of the NTH within the BSA. However, because similar or higher-quality habitat is abundant within and around the BSA, the limited permanent impacts on desert kit fox habitat are expected to have a negligible effect on the local population.

4.3.5.3. Avoidance and Minimization Measures

With the implementation of avoidance and minimization measures **BIO-13**, direct impacts on the desert kit fox are not anticipated.

4.3.5.4. Compensatory Mitigation

The Project would result in temporary impacts to approximately 2.04 total acres of desert kit fox habitat. With the inclusion of measure **BIO-12**, temporary impact areas would be allowed to naturally return to pre-construction conditions. Because the anticipated permanent impacts would be so limited (0.22 acres), compensatory mitigation is not recommended at this time.

4.3.5.5. Cumulative Impacts

There are 126 timber bridges on the NTH within San Bernardino County that need to be rehabilitated or replaced (San Bernardino County 2025b). Much of the NTH runs across ephemeral ditches through desert scrub habitat that is very similar to that found in the BSA, therefore, there is moderate potential for the desert kit fox to occur in the region. Because of this, current and future work on the NTH may contribute to cumulative impacts on the desert kit fox. Additionally, rehabilitating/replacing these bridges would allow the NTH to reopen to the public, which could increase the potential for the desert kit fox and other

wildlife to be killed or injured by vehicle strikes. However, the NTH overlaps with only a small portion of this species' range and is surrounded by habitat of similar or higher quality. Therefore, the limited habitat impacts that would occur as a result of these projects are expected to be negligible, and individuals disturbed by increased vehicle traffic would likely be able to relocate to similar nearby habitat areas readily. Therefore, any cumulative impacts on the desert kit fox would be less than significant.

4.3.6. Desert Bighorn Sheep

Desert bighorn sheep (*Ovis canadensis nelsoni*) is a large ungulate mammal that is native to the western United States and Mexico. There are three subspecies of bighorn sheep, two of which are found in California – Sierra Nevada bighorn sheep (*O. c. sierrae*) and desert bighorn sheep. Furthermore, there is a population of desert bighorn sheep that inhabits the Peninsular Ranges of far southern California, which is federally endangered and State threatened. The specific population of desert bighorn sheep that has the potential to inhabit the BSA is neither threatened nor endangered, but is Fully Protected by CDFW.

The desert bighorn sheep occurs in desert mountain ranges. The species mainly inhabits the steep, rocky slopes of rugged mountains; however, they will descend to lower elevation, open habitats in order to forage. Water sources are particularly important to the species and their foraging habits (Zeiner 1988-1990). Major contributions to the species' decline have been the spread of livestock disease and loss of important niche habitat.

4.3.6.1. Desert Bighorn Sheep Survey Results

The BSA contains an ephemeral ditch at the foot of a natural alluvial fan, roughly a mile away from the surrounding mountain slopes. During wet years, the species may utilize areas near the BSA for foraging. The nearest historical (1986) documented CNDDB occurrence of the species is a sighting of approximately 200 individuals in the mountainous areas approximately 3 miles northeast of the BSA. Two other historical occurrences were recorded within 10 miles of the BSA. Furthermore, several more recent (2022 and 2023) occurrences have been recorded in the same locations on iNaturalist. Due to the presence of potentially suitable foraging habitat and the historical and recent occurrences nearby, the species has a low potential to occur within the BSA, specifically during the wet season when they would potentially utilize the BSA for foraging.

4.3.6.2. Project Impacts on Desert Bighorn Sheep

Desert bighorn sheep are large and conspicuous animals. It is highly unlikely that any one individual sheep would be inadvertently harmed by Project activities such as excavation or pile driving, simply due to their size and visibility. In addition, the species is only likely to enter

the BSA during specific periods of water availability, in the springtime and during wetter years. Because the species is only likely to use the Project area seasonally, it is unlikely that the species would be encountered during construction. The most likely impact to the species would be a loss of suitable foraging habitat and water resources, which is critical in the desert where surface water accessibility is rare and infrequent. This loss would only be temporary, occurring during construction activities when vegetation has been removed and access to shade provided by the bridges is obstructed by construction equipment and materials. While small permanent impacts to potentially suitable creosote scrub habitat would occur (0.22 acres), these impacts would be negligible given the extent of available similar habitat within and surrounding the BSA.

4.3.6.3. Avoidance and Minimization Measures

It is unlikely that desert bighorn sheep would be encountered within the Project area during Project activities. With the implementation of the following avoidance and minimization measure, the Project is not anticipated to impact the desert bighorn sheep.

BIO-14: If desert bighorn sheep are observed within the Project area, work will be halted until the individual(s) have left the Project area. Construction personnel are not authorized to come into direct contact with desert bighorn sheep. The species must be allowed to move throughout the Project area undisturbed by humans, vehicles, or construction machinery.

4.3.6.4. Compensatory Mitigation

The Project would result in temporary impacts to approximately 2.04 total acres of desert bighorn sheep habitat. With the implementation of avoidance and minimization measure **BIO-12**, permanent impacts on desert bighorn sheep habitat would be negligible. Therefore, no compensatory mitigation is proposed.

4.3.6.5. Cumulative Impacts

There are 126 timber bridges on the NTH within San Bernardino County that are in need of rehabilitation or replacement (San Bernardino County 2025b). Due to their location, these projects may also have the potential to impact desert bighorn sheep or their habitat. This Project would only have temporary impacts on desert bighorn sheep habitat and would implement measures to minimize and mitigate these impacts. Therefore, the Project would not contribute to cumulative impacts on the species.

4.3.7. Desert Tortoise

The desert tortoise (*Gopherus agassizii*) is a species of terrestrial reptile native to the Mojave and Sonoran Deserts. The species is federally listed as threatened and state-listed as endangered. Desert tortoises spend most of their long lifetime in burrows underground, even during their seasons of activity. These burrows can be identified by their unique half-circle shape. Individuals emerge from their burrows in late winter and early spring, remaining active through fall, although their activity typically decreases throughout the summer months. Mating occurs during spring and fall. Desert tortoises are very susceptible to dehydration. Between the desert's infrequent rains, tortoises store water in their bladder for long periods of time. If startled, an individual may expel water from their bladder and be at severe risk of dehydration. For this reason, the species is extremely sensitive to human contact and disturbance (USFWS 2010).

The species is listed as threatened under the FESA and endangered under the CESA. Final critical habitat was designated for the species in 1994.

4.3.7.1. Desert Tortoise Survey Results

Prior to field surveys, a CNDDB search was conducted, which revealed five documented occurrences of desert tortoise within a 10-mile radius of the BSA (CDFW 2025b). The closest occurrence was recorded approximately 10 miles north of the Mound Ditch bridge in 2008. There is also an iNaturalist occurrence approximately 5 miles northwest of the BSA from 2023 (iNaturalist 2025). HELIX biologists conducted a focused survey in September 2025 and determined that the habitat within the BSA is suitable for desert tortoise, with a small amount of unsuitable habitat occurring along the paved NTH. Soils outside of paved areas were found to be loose and friable, conducive to burrow development. However, no desert tortoises or other signs were observed during this focused survey. **Appendix C** presents the complete findings of this survey. The presence of suitable habitat and several recent and old occurrences in the Project vicinity indicate that the desert tortoise has a low potential to occur within the BSA. The BSA does not overlap with designated critical habitat.

4.3.7.2. Project Impacts on Desert Tortoise

Project impacts on the desert tortoise may include loss of foraging habitat, destruction or disturbance of burrows, noise, dust, and light pollution, and/or direct harm to individual tortoises or their eggs during ground disturbance activities. The implementation of the avoidance and minimization measures **BIO-15 through BIO-24** would reduce the potential for these impacts to occur to an insignificant level. These measures include conducting pre-construction clearance surveys, installing exclusionary fencing around the work areas, requiring a biological monitor to be present during ground-disturbing activities with the

potential to impact the desert tortoise, and more. **Figure 3** shows the proposed locations where fencing would be installed. While small permanent impacts on potentially suitable desert tortoise habitat could occur (0.22 acres), these impacts would be negligible given the extent of available similar habitat within and surrounding the BSA.

4.3.7.3. Avoidance and Minimization Measures

The following avoidance and minimization efforts have been adapted from recommendations from the USFWS (2009) and the Desert Tortoise Council (2017). These measures would be implemented to minimize impacts to the desert tortoise to the greatest extent feasible:

BIO-15: An authorized Project biologist, approved by CDFW, will monitor all ground disturbing activities which may cause take of desert tortoise. The authorized biologist will also oversee the implementation of all avoidance and minimization measures put in place to protect the desert tortoise.

BIO-16: Approximately 2-4 weeks in advance of construction activities, a focused survey for desert tortoise and their burrows within the Project area shall occur by the authorized biologist. The survey shall be conducted as described in the USFWS (2019) Mojave Tortoise Pre-project Survey Protocol and shall ensure 100% visual coverage of the survey area. Additionally, within 24 hours of the start of soil disturbance, another focused preconstruction clearance survey for the desert tortoise will be conducted by the authorized biologist. If a tortoise or tortoise sign is found in the impact areas or within the immediate vicinity during either pre-construction survey, USFWS and CDFW shall be contacted immediately and the tortoise shall be allowed to move outside the construction area/exclusionary area on their own before the Project can commence installation of exclusionary fencing, on-site construction preparation activities, or any construction activities.

BIO-17: Construction impact areas shall be temporarily fenced with exclusionary fencing in order to contain construction activities within the Project area and prevent the desert tortoise from entering the Project area. The desert tortoise exclusionary fencing must be in compliance with the standards outlined in the 2009 USFWS Desert Tortoise (Mojave Population) Field Manual. However, any specifications in the Field Manual that pertain specifically to bighorn sheep fencing are not required to be implemented. The Caltrans specifications for desert tortoise fencing should include these materials and provide further details. The desert tortoise exclusion fencing shall be delineated in

coordination with the authorized Project biologist. If there are any areas of the Project area not fenced by desert tortoise exclusionary fencing, the limits of the project area should be staked with high visibility flagging attached to delineate project limits .

BIO-18: Desert tortoise exclusion fencing will be inspected twice daily (once before construction activities begin and once after construction activities have ceased for the day during ground disturbing activities in the Project area which may cause take of desert tortoise) and immediately after precipitation events during Project activities by the authorized Project biologist or trained personnel and repaired as needed. Repairs must occur within two days. Any debris that accumulates along the fence should be removed as the fence is inspected.

BIO-19: The Project biologist shall monitor all ground disturbing activities which may cause take of the desert tortoise. Project personnel shall carefully check under parked vehicles or equipment for desert tortoises before moving the vehicles or equipment. Should a desert tortoise be found within the Project area, construction activities shall cease and the USFWS and CDFW shall be contacted within 12 hours. The tortoise shall be allowed to leave the Project area limits on its own volition. Construction may only recommence at the Project biologist's authority and once the desert tortoise is outside of the Project area.

BIO-20: Construction and maintenance vehicles shall not exceed 15 miles per hour in tortoise habitat, which includes all natural communities within the BSA, during periods of higher tortoise activity, March 1 through November 1.

BIO-21: Open trenches, auger holes, or other excavations that may act as pitfall traps shall be inspected prior to working in or around the excavation and prior to backfilling. Other excavations that remain open overnight shall be covered to prevent them from becoming pitfall traps. Any animals found within the excavations shall be relocated by the Project biologist. Should any listed or sensitive species be found within these excavations, the appropriate wildlife agency shall be contacted immediately, and subsequent action shall be performed under the direction of the lead wildlife agencies.

BIO-22: Should a desert tortoise be injured as a result of Project-related activities, it shall be immediately taken to a CDFW-approved rehabilitation facility by the authorized biologist. The CDFW-approved rehabilitation facility in the vicinity of the Project area is the Big Bear Alpine Zoo (909) 584-1299. Any veterinarian

bills for such injured tortoises shall be paid by San Bernardino County. The CDFW and USFWS shall be notified within 12 hours of the incident. Notification shall include the date, time, location, and circumstances of the incident.

BIO-23: Should a desert tortoise be killed by Project related activities or found dead within the construction area, remains shall be collected by the Project biologist and frozen as soon as possible. CDFW and USFWS shall be notified within 12 hours and a written report shall be sent within five calendar days of the incident. Notification shall include the date, time, location, and circumstances of the finding. The Project biologist will coordinate with both CDFW and the USFWS regarding direction on where to bring the frozen specimen.

BIO-24: Placement and construction of rock slope protection will require the interstitial spaces within the rock slope protection to be filled with substrate to prevent trapping of desert tortoise.

4.3.7.4. Compensatory Mitigation

Project activities, including creating a temporary road and staging and operating equipment, would have temporary impacts on approximately 2.04 total acres of desert tortoise habitat. These impact areas would be regraded following construction, and thus, are deemed temporary impacts. With the inclusion of measure **BIO-12**, temporary impact areas would be allowed to naturally return to pre-construction conditions. Because the anticipated permanent impacts would be so limited (0.22 acres) and creosote bush scrub is an extremely common habitat type regionally, compensatory mitigation is not recommended at this time.

4.3.7.5. Cumulative Impacts

There are 126 timber bridges on the NTH within San Bernardino County that need to be rehabilitated or replaced (San Bernardino County 2025b). Much of the NTH runs across ephemeral ditches through desert scrub habitat that is very similar to that found in the BSA. Hence, there is low potential for the desert tortoise to occur in the region. For this reason, current and future work on the NTH may contribute to cumulative impacts on the desert tortoise. Additionally, rehabilitating/replacing these bridges would allow the NTH to reopen to the public, which could increase the potential for the desert tortoise and other wildlife to be killed or injured by vehicle strikes. However, the NTH overlaps with only a small portion of this species' range and is surrounded by habitat of similar or higher quality. Therefore, the limited habitat impacts that would occur as a result of these projects are expected to be negligible, and individuals disturbed by increased vehicle traffic would likely be able to

relocate to similar nearby habitat areas readily. Therefore, any cumulative impacts on the desert tortoise would be less than significant.

Chapter 5. Conclusions and Regulatory Determinations

5.1. Federal Endangered Species Act Consultation Summary

Database research conducted on October 2, 2025, identified one federally listed species that could occur in the Project vicinity: the federally threatened desert tortoise. As described in Sections 3.1.7 and 4.3.7.1, the desert tortoise has a low potential to occur within the BSA. Because the Project lacks a federal nexus, Section 7 consultation with USFWS is not required. Furthermore, with the implementation of the avoidance and minimization measures described in Section 4.3.7.3, the Project is not expected to result in take of the desert tortoise and would therefore not require an incidental take permit under Section 10 of the FESA. No further consultation or other coordination with USFWS is expected to be required. .

This Project is located outside of NMFS's jurisdiction; therefore, a NMFS species list is not required and no effects to NMFS species are anticipated.

5.2. California Endangered Species Act

Database research conducted on October 2, 2025 identified two state-listed species that could occur in the Project vicinity: the state-endangered desert tortoise and candidate endangered burrowing owl. The desert tortoise has a low potential to occur in the BSA; however, with the implementation of the avoidance and minimization measures **BIO-15** through **BIO-24**, take of the desert tortoise would be avoided. The burrowing owl has a moderate potential to occur in the BSA; however, with the implementation of the avoidance and minimization measures **BIO-11** and **BIO-12**, take of the burrowing owl would be avoided. Thus, further consultation with CDFW regarding these species is not planned at this time, and incidental take permits would not be required for this Project.

5.3. Wetlands and Other Waters Coordination Summary

Lamego Ditch is under the jurisdiction of the SWRCB, Colorado River Basin RWQCB, and CDFW. It is considered jurisdictional waters of the State but is not considered waters of the U.S. due to its lack of connectivity to navigable or interstate waters. The Project anticipates temporary impacts to 0.18 acres of Lamego Ditch and permanent impacts to 0.02 acres of Lamego Ditch. Avoidance and minimization measures have been incorporated into the Project in order to reduce the impacts on jurisdictional waters of the State. The Project would acquire WDRs and a §1602 Streambed Alteration Agreement in coordination with the SWRCB, the Colorado River Basin RWQCB, and CDFW.

5.4. Invasive Species

The majority (~95%) of plant species observed within the BSA during survey efforts were native species. In order to preserve this high level of native species and to prevent the introduction an infestation of invasive species to the Project area, measure **BIO-10** would be implemented.

5.5. Other

5.5.1. Migratory Birds

Native bird and raptor species are protected under the California Fish and Game Code Section 3503 and 3503.5 and have the potential to nest within the BSA. Avoidance and minimization measure, **BIO-11**, would be implemented to avoid take of nesting birds and raptors.

5.5.2. Bats

Bats may utilize bridge structures for roosting and the formation of maternal colonies. The following measure would be implemented to avoid impacts to bat species to the extent feasible.

BIO-25: Prior to existing bridge demolition, a qualified biologist must conduct a focused bat survey on the existing bridge structures. If a maternal colony is found within the Project area, a qualified bat biologist shall prepare a bat eviction plan in order to evict bats during the appropriate non-pupping season, from September 1 to October 15 or March 15 to April 15. If no maternal colony or potential maternal colony is identified, work may proceed as scheduled and no additional considerations for bat species are required.

5.5.3. General Wildlife

To prevent harm to local wildlife, the following avoidance and minimization measures would be implemented.

BIO-26: All construction crew members will allow wildlife enough time to escape initial clearing and grubbing activities. Where determined appropriate by the Project biologist, initial clearing and grubbing must be accomplished by using hand tools. If initial clearing and grubbing using hand tools is not feasible, then heavy equipment may be utilized if operated at speeds less than 3 miles per hour.

BIO-27: The contractor must dispose of all food-related trash in closed containers and must remove it from the Project area each day during construction. Construction personnel must not feed or attract wildlife to the Project area.

BIO-28: The contractor must not apply rodenticide or herbicide within the BSA during construction.

Chapter 6. References

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Appendix A: Aquatic Resources Delineation Report

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project

Aquatic Resources Delineation Report

Delineation of Aquatic Features

San Bernardino County, California

Department of Public Works
825 E 3rd Street
San Bernardino, CA 92415

January 2026

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Acronyms List

BSA	Biological Survey Area
CDFW	California Department of Fish and Wildlife
County	San Bernardino County
NTH	National Trails Highway, formerly known as Route 66
OHWM	Ordinary High Water Mark
Project	National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
WOTS	Waters of the State
WOTUS	Waters of the United States

1. Introduction

San Bernardino County (County) is proposing to replace the existing timber Bridge 85, which carries the National Trails Highway (NTH) over Lamego Ditch, with a concrete bridge as the National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project (Project). The Project would replace the existing two-lane timber bridge with a bridge designed to American Association of State Highway and Transportation Officials (AASHTO) standards for two-lane concrete bridges, guardrails, guardrail end treatments, and approaches.

On behalf of the County, Dokken Engineering biologists delineated the aquatic features (Lamego Ditch) within the approximately 21.9-acre biological study area (BSA) for the Project. The delineation was conducted on May 15, 2025. While the aquatic resources within the BSA are not navigable and therefore not considered to be Waters of the United States, the aquatic resource indicators outlined in the *U.S. Army Corps of Engineers' (USACE's) A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States* (Lichvar and McColley 2008) were used to delineate the boundaries of Lamego Ditch in the BSA.

A total of 0.7 acres (1,190 feet) of Waters of the State (WOTS) and California Department of Fish and Wildlife (CDFW) jurisdictional stream habitat were delineated within the BSA.

2. Location

The Project would be implemented in San Bernardino County, near the unincorporated communities of Chambless (**Figures A-1 and A-2 in Appendix A**). It is located just south of the Mojave National Preserve, within the Cadiz U.S. Geological Survey (USGS) 7.5-minute quadrangle in Township 6N, Range 13E, Section 36. The approximate center of the BSA is situated at 34.561545, -115.569209.

The BSA was defined as the area necessary for Project activities, including space for staging and access, plus an approximate 50-foot buffer to capture any indirect impacts from the Project (**Figures A-3 and A-4 in Appendix A**).

To access the BSA from Interstate 40, take Exit 78 onto Kelbaker Road. Follow Kelbaker Road until it terminates at the NTH, then turn left onto the NTH. After approximately 4 miles, arrive at the BSA.

3. Methods

The aquatic resources delineation and general biological resources survey was conducted by Dokken Engineering biologists Mark Fogiel and Jenna Quan on May 15, 2025. The surveying biologists are knowledgeable in plant identification and aquatic resource delineation. The lead surveying biologist, Mark Fogiel, has a Master of Science in Biology from San Francisco State University and 33 years of experience related to biological resources, including botanical surveys and aquatic resource delineations. Jenna Quan has a Bachelor of Science in Ecology, Evolution, and Biodiversity from the University of California, Davis, and 3 years of experience related to biological surveys and aquatic resource delineations.

While the aquatic resources within the BSA are not navigable and therefore not considered to be Waters of the U.S., the aquatic resource indicators outlined in USACE's *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States* (Lichvar and McColley 2008) were generally used to guide the aquatic resource delineation. No OHWM data sheets were completed for the delineation. The limits of Lamego Ditch, which is the only aquatic resource within the BSA, were mapped in the field by walking with an EOS Arrow 100 Receiver and ArcGIS software.

Because surface water was not present in the BSA during the delineation, the surveying biologists relied heavily on the presence of common aquatic resource indicators, including changes in elevation/slope, erosion, sediment sorting, changes in vegetation, and others described in the USACE field guide (Lichvar and McColley 2008) to delineate the aquatic resources in the BSA. In areas where these field indicators were weak, current and historical aerial imagery and topographic maps were reviewed to delineate Lamego Ditch. The surveyors walked the BSA and visually searched for evidence of potential wetlands. No potential wetlands were identified, so no wetland datasheets were completed.

Biological survey efforts were conducted by walking meandering transects through the entire BSA and scanning the area with binoculars, noting present plant and wildlife species, and classifying vegetation communities. The vegetation communities were classified using the *Manual of California Vegetation, Second Edition* (Sawyer et al. 2009).

4. Existing Conditions

4.1 Landscape Setting

The BSA is in San Bernardino County along the NTH. The NTH runs through the Mojave Desert, which is characterized by its unique geological processes, flora, and fauna. The BSA is within the Mojave Desert (DMoj) Jepson bioregion and the American Semi-Desert and Desert (322) U.S. Forest Service ecological section (Jepson Flora Project 2025; Cleland et al. 2007). The region receives an average of 4.32 inches of precipitation annually (National Weather Service 2025). Most precipitation falls between November and April, with occasional snow accumulation in the surrounding higher elevation areas (National Park Service 2023). The BSA encompasses approximately 21.9 acres of land categorized for use as “open space” (San Bernardino County 2025).

The BSA is located within an alluvial fan at the base of the Old Dad/Bristol Mountains. Alluvial material is deposited south of these mountains, producing large alluvial fans drained by a series of rills, shallow gullies, and ephemeral channels at the foot of the mountains. While there are rocky mountainous ranges just north of the BSA, the topography of the BSA itself is relatively flat, gently sloping to the southeast. The elevation of the BSA ranges from approximately 745 feet above mean sea level near the southeast corner of the BSA to 760 feet above mean sea level near the northwest corner of the BSA.

Soils

The Natural Resource Conservation Service Soil Survey does not have available data within the BSA. Soils within the BSA were characterized during the field survey as poorly sorted colluvium consisting of unconsolidated rocks, gravel, and sand. **Appendix B** provides representative photos of the soils within the BSA.

Land Cover

A general biological resources survey was conducted on May 15, 2025, by Dokken Engineering biologists Mark Fogiel and Jenna Quan. During this survey, the vegetation communities within the BSA were mapped. **Figure A-4** in **Appendix A** maps the vegetation communities within the BSA**,** and representative photos of the land cover types within the BSA are provided in **Appendix B**. Land cover types within the BSA are summarized below.

Ephemeral Ditch: Bridge 85 carries the NTH over Lamego Ditch, which is a man-made channel that collects flow from numerous rills, gullies, and small ephemeral channels on the upslope side of the roadway to convey it under the roadway. Vegetation within the ditch is sparse, and the soil is generally sandier within the channel than in the surrounding upland areas. The ephemeral Lamego Ditch comprises 0.7 acres of the BSA.

Disturbed/Barren: Within the BSA, the disturbed/barren land cover type includes the paved and unpaved roadways and road shoulders of the NTH. This land cover type is

generally unvegetated. The BSA contains approximately 2.3 acres (11%) of Disturbed/Barren land cover.

Creosote Bush Scrub: The dominant species in this community are creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). This community is shrub-dominated, with sparse shrub cover and a relatively uniform appearance. Individual creosote bush shrubs are spread out evenly across the landscape and mixed with other shrub and groundcover species. Common shrubs include cheesebush (*Ambrosia salsola*) and rayless encelia (*Encelia frutescens*). The BSA contains approximately 18.9 acres (86%) of creosote bush scrub habitat.

Table 1 provides a list of all plant species observed within the BSA during the May 2025 biological survey.

Table 1. Species Observed Within Biological Study Area

Common Name	Scientific Name	Native (N) / Non-Native (X)
Cheesebush	*Ambrosia salsola*	N
Creosote bush	*Larrea tridentata*	N
Narrow-leaved johnstonella	*Johnstonella angustifolia*	N
Rayless encelia	*Encelia frutescens*	N
Schismus	*Schismus sp.*	X [limited]*
Smallseed sandmat	*Euphorbia polycarpa*	N
Smoke tree	*Psorothamnus spinosus*	N
White bur sage	*Ambrosia dumosa*	N

*California Invasive Plant Council (Cal-IPC) Invasive Rating

4.2 Aquatic Resources

The BSA is within the Town of Chambless watershed (hydrologic unit code 181001003003). This watershed covers approximately 46,840 acres and includes numerous ephemeral streams that drain into Bristol Lake, a playa that is generally dry but inundated by a few inches of water in the wet season (USGS 2025).

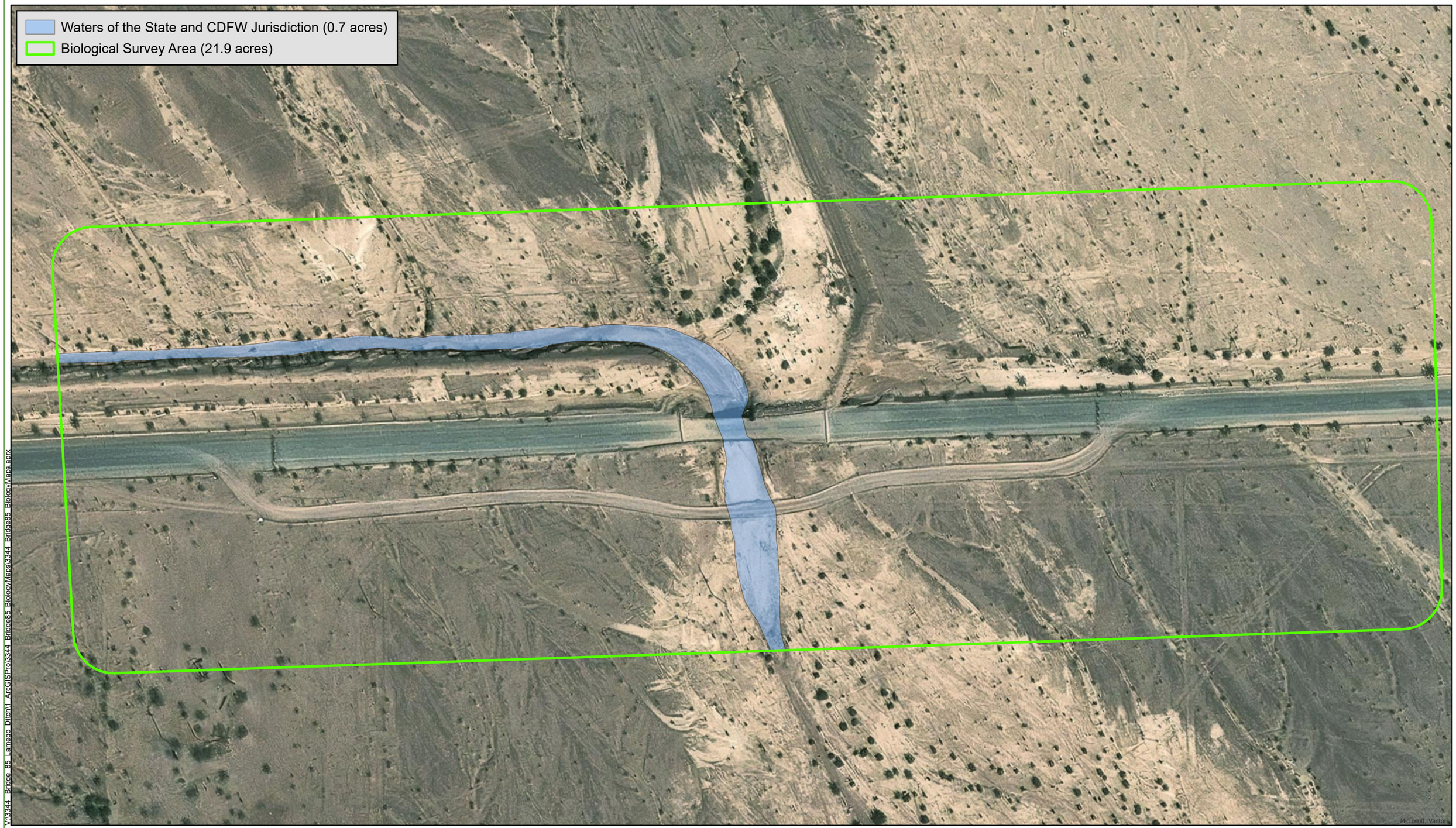
Lamego Ditch

The only hydrologic feature in the BSA is Lamego Ditch, an ephemeral stream ranging in width from approximately 12 feet at the western end of the BSA to approximately 58 feet at the existing dirt shoo-fly. The channel substrate is generally sandy, with small rocks/pebbles present throughout. Hydrology for Lamego Ditch is generally provided by regional precipitation. Drainage in the BSA is primarily from northwest to south, draining into Bristol Lake approximately 6 miles south of the BSA.

Because Lamego Ditch is ephemeral and only conveys water during and immediately following rain events, it is not navigable. Furthermore, Bristol Lake is not considered to be navigable since it is dry for the majority of the year. Therefore, Lamego Ditch is not considered to be a Water of the U.S.

The Colorado River Regional Water Quality Control Board (RWQCB) has jurisdiction over WOTS, which includes all surface waters within the boundaries of the state, under Section 401 of the Clean Water Act. Under Section 1600 of the California Fish and Game Code, CDFW has jurisdiction over rivers, streams, and lakes, including those that are dry for periods of time as well as those that flow year-round. Thus, both the RWQCB and CDFW have jurisdiction over Lamego Ditch within the BSA.

Approximately 1,190 feet and 0.7 acres of Lamego Ditch were mapped within the BSA. **Figure 1** maps this aquatic feature within the BSA.



V:\3344_Bridge_85_Lamego_Ditch\1_ArcGISPro\3344_Bridge85_Biology\Maps\3344_Bridge85_Biology\Maps.aprx

Coordinate System: State Plane CA VI FIPS 0406
Projection: Lambert Conformal Conic
Datum: North American Datum 1983

1 inch = 110 feet

0 100 200 Feet

Prepared by:
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Prepared for:
San Bernardino County
Department of Public Works
825 E 3rd Street
San Bernardino, CA 92415

Delineator: Jenna Quan and Mark Fogiel
Delineation Date: May 15, 2025
Aerial Photography Source: Microsoft, Vantor

Figure 1
Aquatic Resource Delineation Map
National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

5. References

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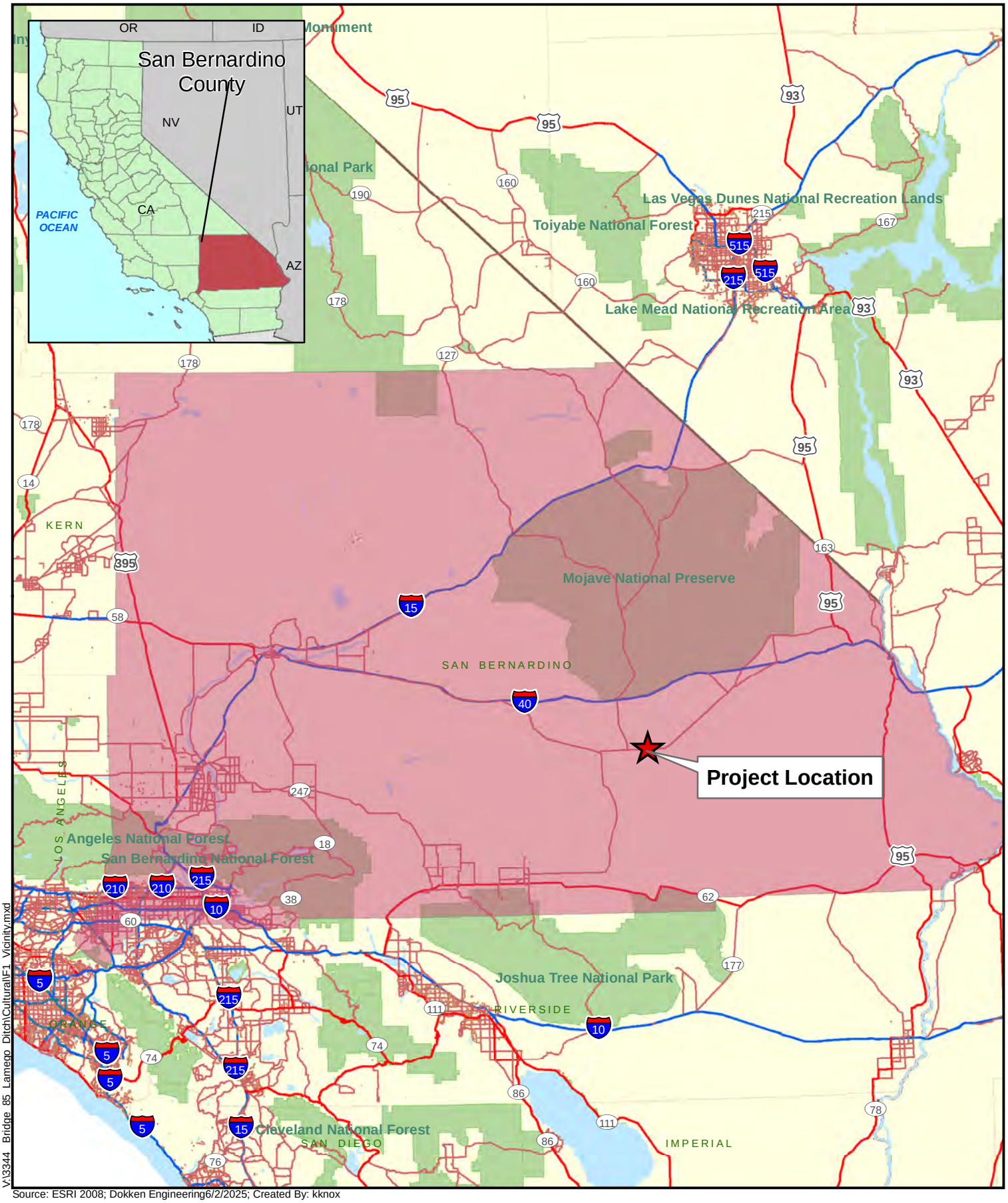
Appendix A: Supplemental Exhibits



Source: ESRI 2008; Dokken Engineering6/2/2025; Created By: kknox

0 10 20 30 Miles

Figure A-1
Project Vicinity

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

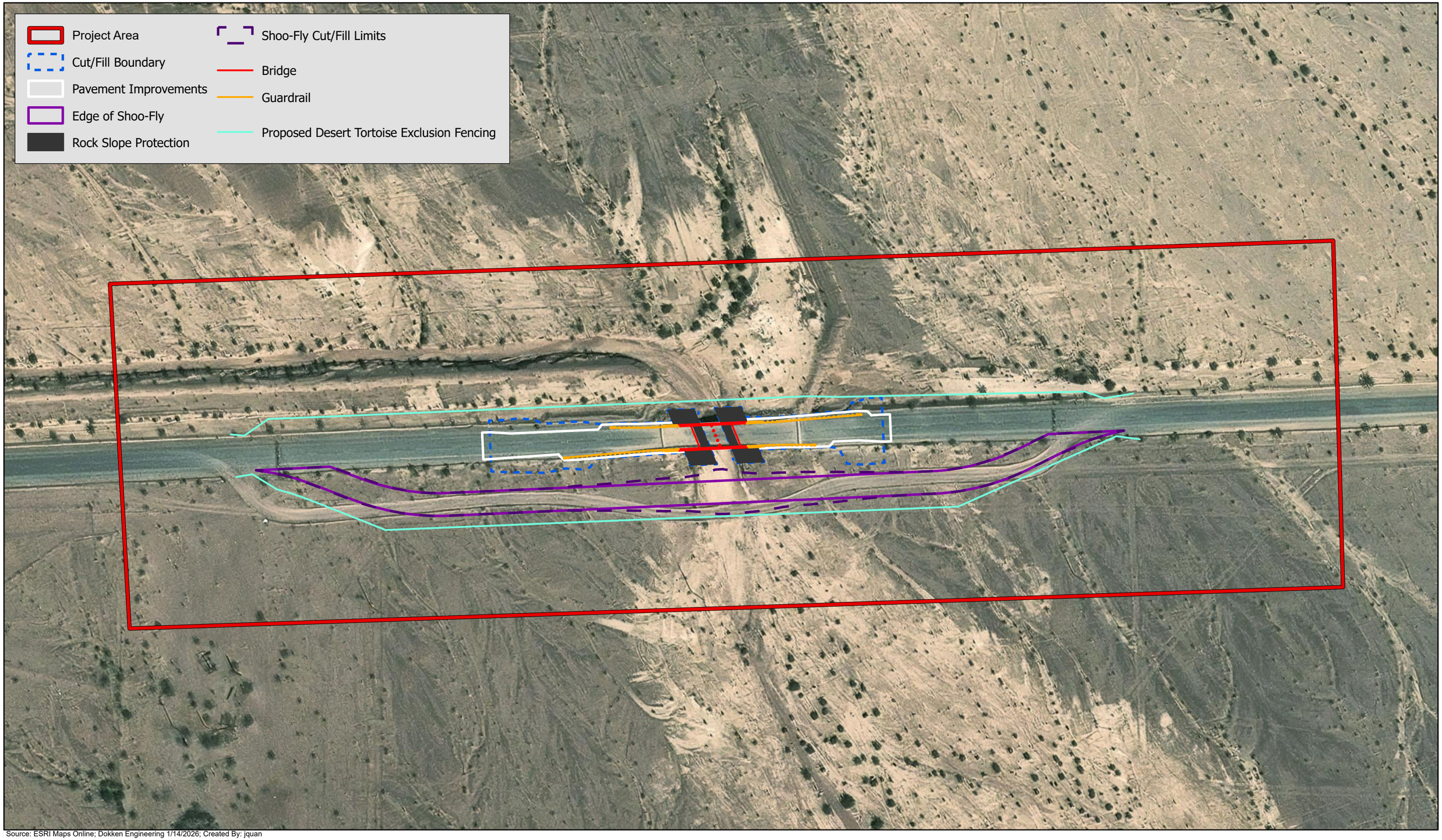
v:\1836_11thStBridge\Cultural\F2_Loc_10-12-10.mxd

Source: ESRI World Street Maps Online; Dokken Engineering 5/8/2025; Created By: amyd

0 1 2 3 4 Miles

Figure A-2
Project Location

National Trails Highway Bridge 85 (Lamego) Replacement Project
San Bernardino County, California

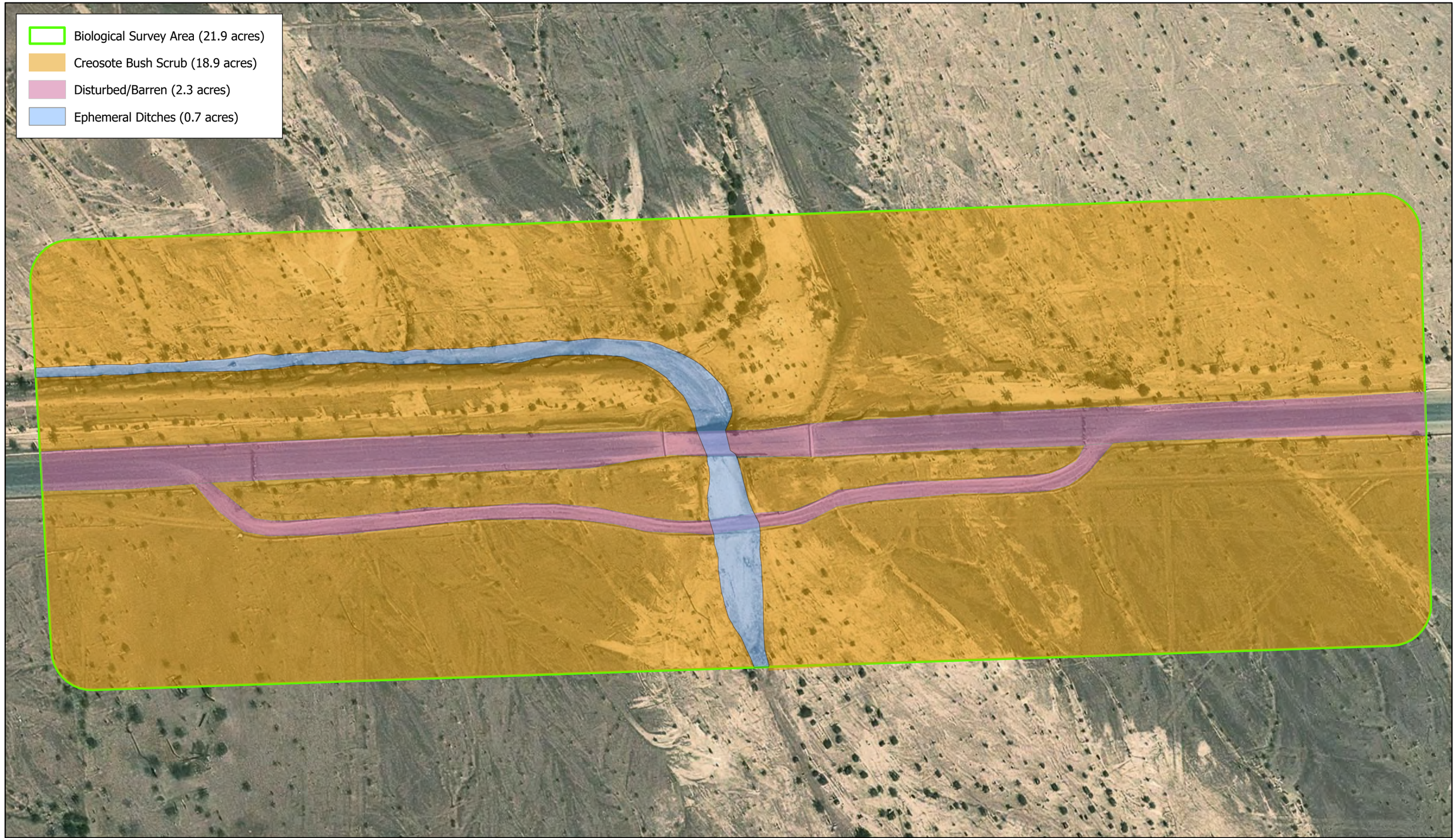


Source: ESRI Maps Online; Dokken Engineering 1/14/2026; Created By: jquan

0 200 400 Feet

Figure A-3
Project Features

National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California



Source: World Imagery: Microsoft, Vantor; Dokken Engineering 12/4/2025; Created By: jquan

0 55 110
Feet

Figure A-4
Land Cover
National Trails Highway at Bridge 85 (Lamego Ditch) Replacement Project
San Bernardino County, California

Appendix B: Representative Photographs

Photo 1. Representative photo of the creosote bush scrub habitat that dominates the BSA, as well as the unconsolidated sandy/rocky soils within the BSA. Photo taken July 7, 2025 (during a general site visit), facing southeast.

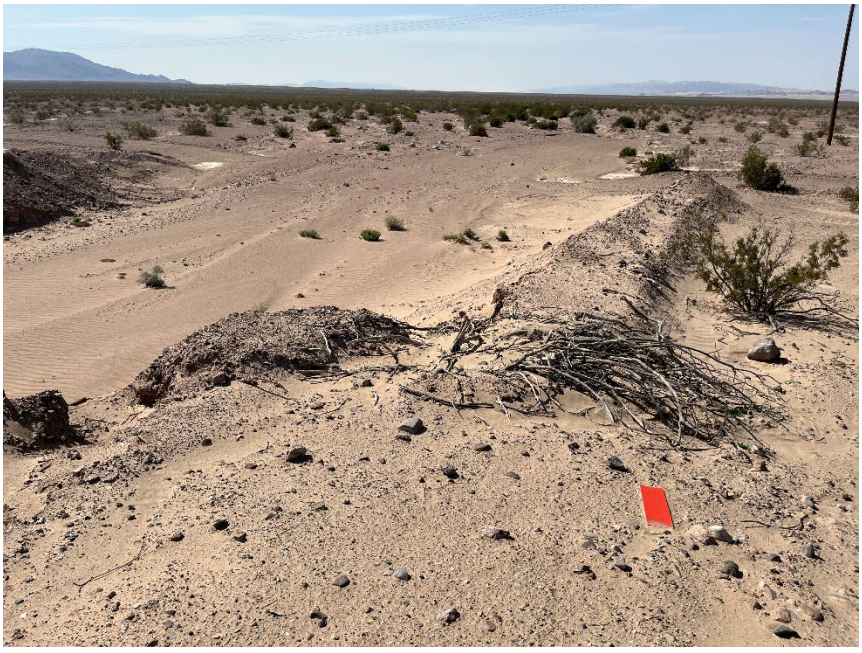


Photo 2. Representative photo of the widest part of Lamego Ditch, downstream of the NTH. Photo taken facing south on July 7, 2025.

Photo 3. Representative photo of the upland areas and the ephemeral ditch areas. The ephemeral ditch is indicated by a change in sediment type and change in slope. Photo taken on July 7, 2025, upstream of the NTH, facing south.

Appendix B: Species Lists

1. California Department of Fish and Wildlife's California Natural Diversity Database Query Results
2. California Native Plant Society's Rare Plant Inventor Query Results
3. U.S. Fish and Wildlife Service Official Species List

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Cadiz (3411555) OR Cadiz Summit (3411554) OR Cadiz Lake NE (3411543) OR Castle Dome (3411564) OR Van Winkle Wash (3411565) OR Brown Buttes (3411566) OR Amboy (3411556) OR Bristol Lake NW (3411546) OR Calumet Mine (3411545))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
burrowing owl *Athene cunicularia*	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
California leaf-nosed bat *Macrotus californicus*	AMACB01010	None	None	G3G4	S3	SSC
cheeseweed owlfly (cheeseweed moth lacewing) *Oliarces clara*	IINEU04010	None	None	G1G3	S2	
Clokey's cryptantha *Cryptantha clokeyi*	PDBOR0A3M0	None	None	G3	S3	1B.2
desert beardtongue *Penstemon pseudospectabilis ssp. pseudospectabilis*	PDSCR1L562	None	None	G4G5T4	S3	2B.2
desert bighorn sheep *Ovis canadensis nelsoni*	AMALE04013	None	None	G4T3	S3	FP
desert tortoise *Gopherus agassizii*	ARAAF01012	Threatened	Endangered	G2G3	S2S3	
Emory's crucifixion-thorn *Castela emoryi*	PDSIM03030	None	None	G3G4	S2S3	2B.2
glandular ditaxis *Ditaxis claryana*	PDEUP080L0	None	None	G3G4	S2	2B.2
golden eagle *Aquila chrysaetos*	ABNKC22010	None	None	G5	S3	FP
Granite Mountains monardella *Monardella mojavensis*	PDLAM181A0	None	None	G2	S2	1B.3
Harwood's eriastrum *Eriastrum harwoodii*	PDPLM030B1	None	None	G2	S2	1B.2
Latimer's woodland-gilia *Saltugilia latimeri*	PDPLM0H010	None	None	G3	S3	1B.2
Mojave fringe-toed lizard *Uma scoparia*	ARACF15030	None	None	G3G4	S3S4	SSC
Orocopia Mountains spurge *Euphorbia jaegeri*	PDEUP0Q440	None	None	G1	S1	1B.1
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G4	S3	SSC
prairie falcon *Falco mexicanus*	ABNKD06090	None	None	G5	S4	WL
small-flowered androstephium *Androstephium breviflorum*	PMLIL06010	None	None	G5	S2?	2B.2
Stephens' beardtongue *Penstemon stephensii*	PDSCR1L5W0	None	None	G3?	S3?	1B.3
white-margined beardtongue *Penstemon albomarginatus*	PDSCR1L070	None	None	G1	S1	1B.1

Record Count: 20

CNPS Rare Plant Inventory

Search Results

12 matches found. Click on scientific name for details

Search Criteria: , CRPR is one of [1A:1B:2A:2B:3] , Quad is one of [3411566:3411556:3411565:3411564:3411554:3411544:3411545:3411546:3411555]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Androstephium breviflorum	small-flowered androstephium	Themidaceae	perennial bulbiferous herb	Mar-Apr	None	None	G5	S2?	2B.2		1974-01-01	 © 2005 James M. Andre
Castela emoryi	Emory's crucifixion-thorn	Simaroubaceae	perennial deciduous shrub	(Apr)Jun-Jul(Sep-Oct)	None	None	G3G4	S2S3	2B.2		1974-01-01	No Photo Available
Cryptantha clokeyi	Clokey's cryptantha	Boraginaceae	annual herb	Apr	None	None	G3	S3	1B.2	Yes	1994-01-01	No Photo Available
Cuscuta californica var. *apiculata*	pointed dodder	Convolvulaceae	annual vine (parasitic)	Feb-Aug	None	None	G5T3	S3?	3		2007-06-13	No Photo Available
Ditaxis claryana	glandular ditaxis	Euphorbiaceae	perennial herb	Oct-Mar	None	None	G3G4	S2	2B.2		1974-01-01	No Photo Available
Eriastrum harwoodii	Harwood's eriastrum	Polemoniaceae	annual herb	Mar-Jun	None	None	G2	S2	1B.2	Yes	2008-07-22	No Photo Available

Euphorbia jaegeri	Orocopia Mountains spurge	Euphorbiaceae	perennial shrub	Oct-May	None	None	G1	S1	1B.1	Yes	2013-01-17	 Keir Morse
Monardella mojavensis	Granite Mountains monardella	Lamiaceae	shrub	May-Aug	None	None	G2	S2	1B.3		2022-03-15	No Photo Available
Penstemon albomarginatus	white-margined beardtongue	Plantaginaceae	perennial herb	Mar-May(Jun)	None	None	G1	S1	1B.1		1988-01-01	 Michelle Cloud-Hughes 2010
Penstemon pseudospectabilis ssp. *pseudospectabilis*	desert beardtongue	Plantaginaceae	perennial herb	Jan-May	None	None	G4G5T4	S3	2B.2		2012-04-11	No Photo Available
Penstemon stephensii	Stephens' beardtongue	Plantaginaceae	perennial herb	Apr-Jun	None	None	G3?	S3?	1B.3	Yes	1974-01-01	No Photo Available
Saltugilia latimeri	Latimer's woodland-gilia	Polemoniaceae	annual herb	Mar-Jun	None	None	G3	S3	1B.2	Yes	2004-01-01	No Photo Available

Showing 1 to 12 of 12 entries

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Suggested Citation:
California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 3 October 2025].
}

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901

In Reply Refer To: 10/02/2025 16:05:02 UTC
Project Code: 2026-0000258
Project Name: National Trails Highway Bridge 85 Replacement Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A biological assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a biological assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a biological assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found at the Fish and Wildlife Service's Endangered Species Consultation website at:

https://www.fws.gov/service/esa-section-7-consultation

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

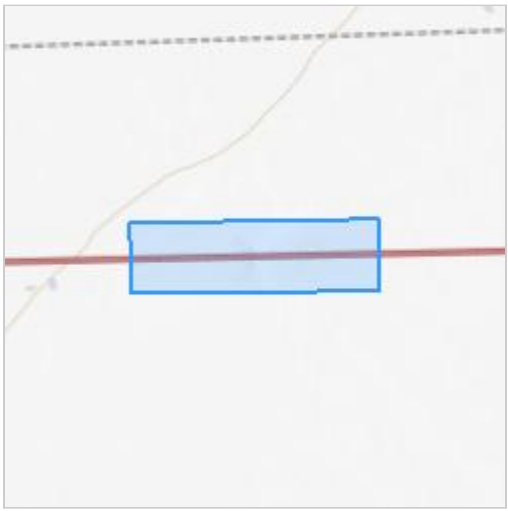
This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

PROJECT SUMMARY

Project Code: 2026-0000258
Project Name: National Trails Highway Bridge 85 Replacement Project
Project Type: Bridge - Replacement
Project Description: Bridge Replacement
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.5614803,-115.56907594306767,14z



Counties: San Bernardino County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

REPTILES

NAME	STATUS
Desert Tortoise *Gopherus agassizii*	Threatened

Population: Wherever found, except AZ south and east of Colorado R., and Mexico
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/4481

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Proposed Threatened

There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/9743

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: County of San Bernardino
Name: Jenna Quan
Address: 110 Blue Ravine Road, Suite 200
City: Folsom
State: CA
Zip: 95630
Email jquan@dokkenengineering.com
Phone: 9168580642

Appendix C: Focused Desert Tortoise Survey Results

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 tel
619.462.0552 fax
www.helixepi.com

January 8, 2026 00230.00009.001

Amy Dunay
Dokken Engineering
110 Blue Ravine Road, Suite 200
Folsom, CA 95630

Subject: **Results of the Desert Tortoise (*Gopherus agassizii*) Habitat Assessment and Focused Survey for the Lamego Bridge (Bridge 85) on National Trails Highway Project**

This letter presents the results of a habitat assessment and focused presence/absence survey for the federally listed as threatened desert tortoise (*Gopherus agassizii*) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Lamego Bridge (Bridge 85) on the National Trails Highway Project (project). The project encompasses the Lamego Bridge located along National Trails Highway Route 66 in eastern San Bernardino County. The project proposes to demolish the two-lane timber bridge and replace it with an American Association of State Highway and Transportation Officials, or equivalent, two-lane concrete bridge with guardrail and other pertinent structures. This letter describes the methods and results of the survey.

PROJECT LOCATION

The project is located in the unincorporated community of Amboy in eastern San Bernardino County, California (Figure 1, *Regional Location*). The Lamego Bridge is located within Sections 31 and 36 of Township 6 North, Ranges 13 and 14 East, of the U.S. Geological Survey (USGS) *Cadiz, California* 7.5-minute topographic quadrangle map (Figure 2, *USGS Topography – Lamego Bridge*). The bridge is located along National Trails Highway Route 66 between Kelbaker Road and MacTul Road (Figure 3, *Aerial Photograph*). The project is not located within U.S. Fish and Wildlife Service (USFWS) designated critical habitat for the species.

METHODS

Before conducting fieldwork, HELIX conducted a query of USFWS species records and California Department of Fish and Wildlife's California Natural Diversity Database for locations of desert tortoise within or near the vicinity of the project. The project occurs within the current range of desert tortoise, and the nearest record of the species occurs approximately 8.5 miles (13.5 kilometers) to the north of the Lamego Bridge (Bridge 85), where a single adult was observed within a burrow along the Southern California Gas Company pipeline access road near post mile 61.5 on July 25, 2001.

HELIX biologists Dustin Baumbach and Gregory Garcia conducted the desert tortoise survey on September 23, 2025 (Table 1, *Survey Information*). The purpose of the focused survey was to assess suitability of habitat within the project area for desert tortoise and better inform whether desert tortoises currently occupy the project area, have occupied the area in the recent past, or have potential to occupy the project area. The focused survey was conducted during the tortoise's most active period (April through May and September through October) and when air temperatures were below 95 degrees Fahrenheit (35 degrees Celsius). The survey area included the entire project site plus a 50-foot buffer (Figure 4, *Desert Tortoise Habitat Assessment and Survey Results – Lamego Bridge*). Unsuitable habitat (e.g., paved National Trails Highway Route 66) was excluded from the survey area.

The survey was conducted by walking parallel straight-line belt transects approximately 100 feet (30 meters) apart while surveying approximately 50 feet (15 meters) on each side of the transect line to achieve 100 percent cover. Biologists visually searched for above-ground tortoises (both out of burrows and within burrows but still visible), as well as tortoise sign (burrows, scat, carcasses, etc.). The biologists, both of whom are trained in desert tortoise biology and ecology, determined that these survey methods allowed them to achieve 100 percent visual coverage of the project area to locate potential desert tortoise burrows and sign. The survey areas were specifically inspected for desert tortoise sign, including live tortoises; shells, bones, scutes, and limbs; scat; burrows and pallets; tracks; eggshell fragments; courtship rings; and drinking sites and mineral licks. The *Desert Tortoise Field Manual*[1] was used to categorize the condition of sign. Mirrors were used to direct sunlight into holes, rock crevices, and other shaded areas to assist in determining the shape, depth, and other characteristics of potential desert tortoise burrows. When a potential desert tortoise sign was found, it was examined to determine whether it was desert tortoise sign, possible desert tortoise sign, or not desert tortoise sign. A handheld global positioning unit was used to maintain the accuracy of transects and to record any desert tortoise sign and potential burrows observed during the survey.

Table 1 details the survey dates, times, and conditions.

Table 1
SURVEY INFORMATION

Date	Survey Area(s)	Biologist(s)	Time (Start/Stop)	Weather Conditions (Start/Stop)
9/23/2025	Lamego Bridge	Dustin Baumbach Gregory Garcia	1100/1200	88°F, wind 0 mph, sunny 89°F, wind 3 mph, sunny

°F = degrees Fahrenheit; mph = miles per hour

SURVEY RESULTS

Habitat Assessment

Habitat within the project site was assessed for suitability for desert tortoise based on vegetation, soils, level of disturbance, and location within the current and historic range of the species. Habitat within the Lamego Bridge project site was determined to be suitable for desert tortoise, with a small amount of unsuitable habitat occurring along paved areas associated with the National Trails Highway Route 66

[1] USFWS. 2009. Desert Tortoise (Mojave Population) Field Manual. Region 8, Sacramento, California. Retrieved from: https://www.fws.gov/media/desert-tortoise-field-manual.

(Figure 4). Vegetation within and adjacent to the project site is comprised of creosote bush scrub dominated by creosote (*Larrea tridentata*) shrubs of sufficient height to provide shade for desert tortoise. Surface soils outside of paved areas were found to be loose and friable, which were conducive to supporting desert tortoise burrow development. Small rocky areas that would not be conducive for burrow development were also observed within the project site. However, these areas were small and would not deter desert tortoises from moving through or occupying the site. Signs of human disturbance that may affect the presence of desert tortoise were observed within undeveloped areas and included signs of off-roading, loose trash, and debris. Representative photographs of the project site are included in Attachment A, *Representative Site Photos*.

Focused Survey

No desert tortoise or desert tortoise sign (scat, scutes, tracks, and other signs) were observed within the project site during the focused survey effort (Figure 4). Burrows observed within the project site consisted of those used by small or medium rodents or other animals and were generally too small in size or not consistent in shape with those associated with desert tortoise.

CLOSING

The Lamego Bridge project site contains suitable habitat for desert tortoise consisting of vegetation tall enough to provide shade for individuals and soft, friable soils conducive for burrow development. As such, desert tortoise has the potential to occur within the Lamego Bridge project site.

If you have any questions regarding this report or the survey, please contact me at DustinB@helixepi.com, or Erica Harris at EricaH@helixepi.com.

Sincerely,

Dustin Baumbach

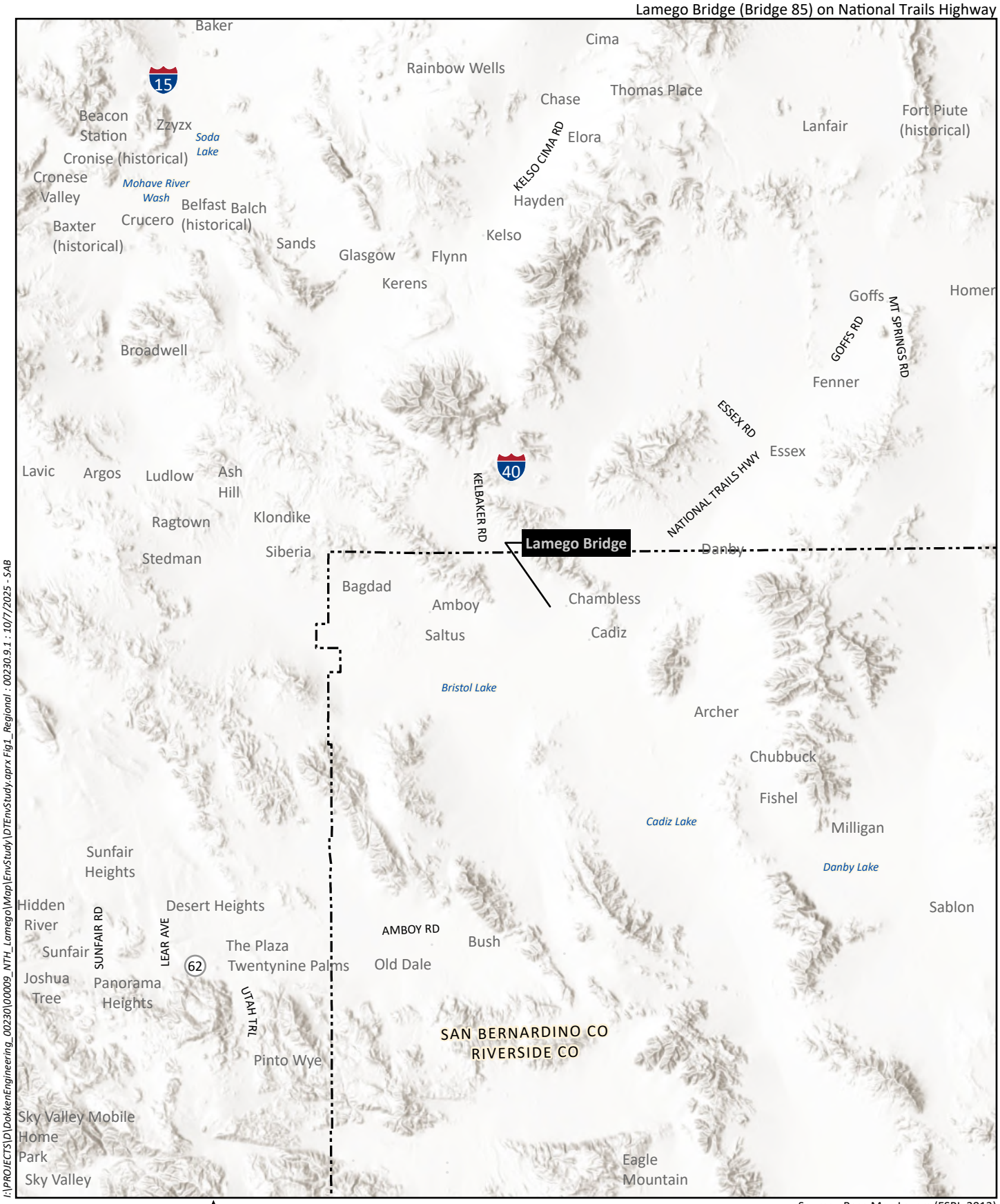
Dustin Baumbach
Biologist

Enclosures:

Figure 1: Regional Location
Figure 2: USGS Topography – Lamego Bridge
Figure 3: Aerial Photograph
Figure 4: Desert Tortoise Habitat Assessment and Survey Results – Lamego Bridge

Attachment A Representative Site Photos

Figures



I:\PROJECTS\D\DokkenEngineering_00230\00009_NTH_Lamego\Map\EnvStudy\DTEnvStudy.aprx Fig1_Regional : 00230.9.1 : 10/7/2025 - SAB

0 10 Miles

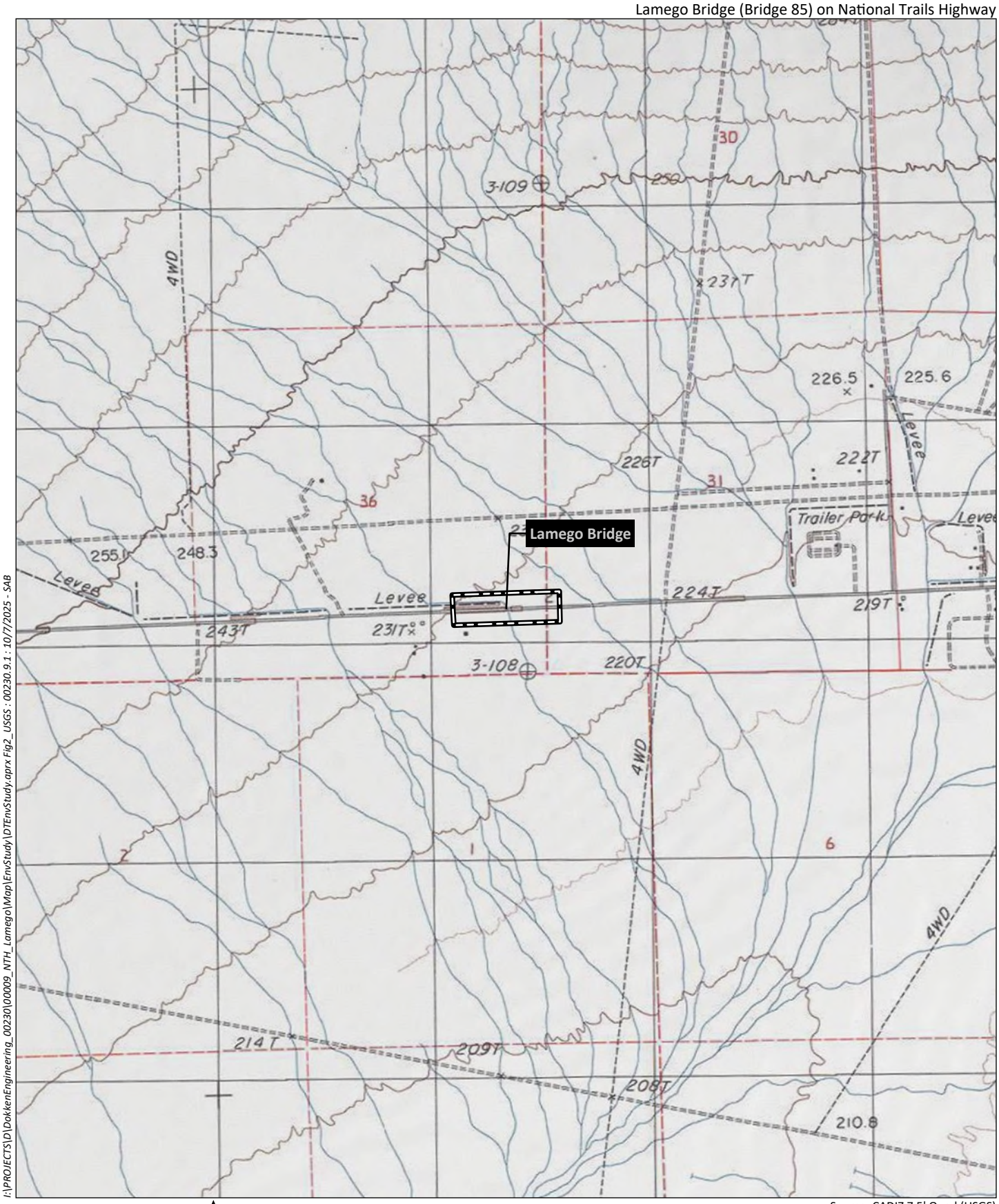
Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

Regional Location

Figure 1

Lamego Bridge (Bridge 85) on National Trails Highway



I:\PROJECTS\D\DokkenEngineering_00230\00009_NTH_Lamego\Map\EnvStudy\DTEnvStudy.aprx Fig2_USGS : 00230.9.1 : 10/7/2025 - SAB

0 2,000 Feet

Source: CADIZ 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography - Lamego Bridge

Figure 2

Lamego Bridge (Bridge 85) on National Trails Highway

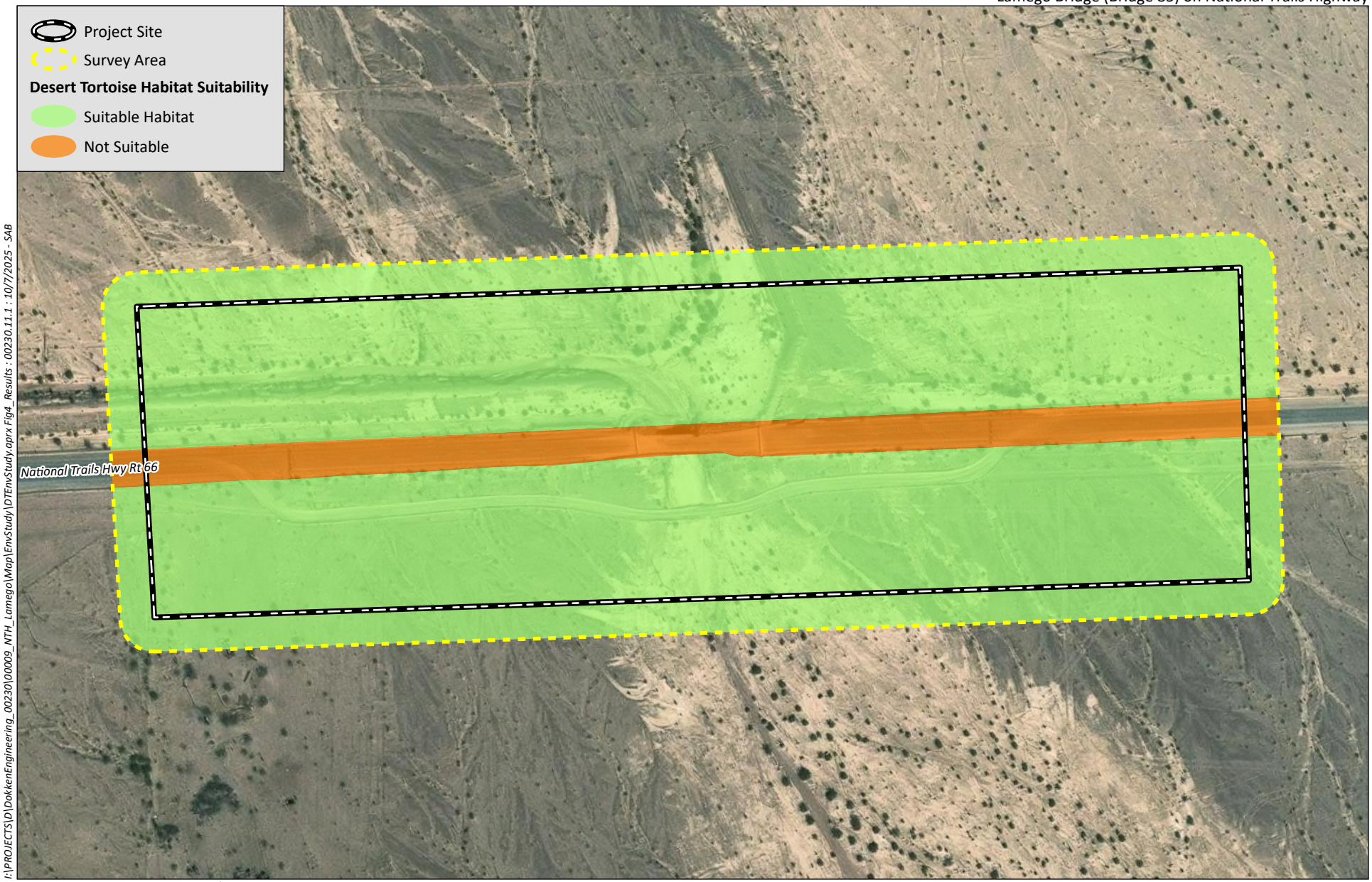
Source: Aerial (Maxar, 2021, 2024)

HELIX Environmental Planning

Aerial Photograph

Figure 3

Lamego Bridge (Bridge 85) on National Trails Highway



I:\PROJECTS\D\DokkenEngineering_00230\00009_NTH_Lamego\Map\EnvStudy\DTEnvStudy.aprx Fig4_Results : 00230.11.1 : 10/7/2025 - SAB

0 200 Feet

Source: Aerial (Maxar, 2023, 2024)

HELIX Environmental Planning

Desert Tortoise Habitat Assessment and Survey Results - Lamego Bridge

Figure 4

Attachment A

Representative Site Photos

Photo 1. Overview of unsuitable habitat along Route 66, National Trails Highway.

Photo 2. Overview of the Lamego Bridge (Bridge 85) along Route 66, National Trails Highway.

Photo 3. Overview of suitable habitat on the north side of Lamego Bridge (Bridge 85). Soil substrates were loose, friable, and conducive to desert tortoise burrow development. Habitat within survey area was determined to be suitable for desert tortoise.

Photo 4. Overview of suitable habitat on the south side of Lamego Bridge (Bridge 85). Soil substrates were loose, friable, and conducive to desert tortoise burrow development. Habitat within survey area was determined to be suitable for desert tortoise.

Appendix D: Representative Photographs

Representative Photo 1. Lamego Ditch bridge, facing north.

Representative Photo 2. Representative photo of main channel that is conveyed below the bridge. Photo of Lamego Ditch, facing south.

Representative Photo 3. Representative photo depicting the creosote bush scrub habitat that dominates the BSA. This photo was taken at the Lamego Ditch bridge, facing north.

Appendix C:
Hazardous Waste Initial Site Assessment

Hazardous Waste Initial Site Assessment Memorandum

National Trails Highway Bridge 85 at Lamego Ditch Replacement
San Bernardino County, California

Agency:	San Bernardino County, Department of Public Works, Environmental Management Division
Attention:	Nancy Sansonetti, Supervising Planner – Capital Improvement Section
From:	Dokken Engineering
Subject:	Hazardous Waste Initial Site Assessment Memorandum for the National Trails Highway Bridge 85 (Lamego Ditch) Replacement Project, San Bernardino County, CA
Date:	October 28, 2025

This Phase I Initial Site Assessment (ISA) Memorandum (Memo) has been prepared for the San Bernardino County National Trails Highway Bridge 85 (Lamego Ditch) Replacement Project (Project). This Hazardous Waste Initial Site Assessment Memorandum (ISA Memo) was prepared in general accordance with "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", which is presented in the American Society for Testing Materials (ASTM) International Standard E-1527[1]. This document is intended to be in general compliance with the US Environmental Protection Agency's "Standards and Practice for All Appropriate Inquires (AAI)"[2].

The purpose of an ISA Memo is to document the records reviews conducted, the results of reconnaissance of the Subject Properties, identify any potential waste generated by the projects, and evaluate the Subject Properties for the presence of Recognized Environmental Conditions (RECs) and/or Activity and Use Limitations (AULs), as described below:

REC: "...the presence or the likely presence of any hazardous substances or petroleum hydrocarbons on the (Subject Property) that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum hydrocarbons into structures or into the ground, groundwater, or surface water of the Subject Property."[1]

AUL: "...legal or physical restrictions or limitations on the use of, or access to, a site or facility: 1) to reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil or ground water on the property, or 2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment."[1]

Opinions given in this ISA Memo, relative to the potential for hazardous materials or petroleum hydrocarbons to exist within the Project area, are based on information derived from a site

[1] ASTM International E-1527-21.
[2] 40 Code of Federal Regulations, Part 312.

reconnaissance survey conducted on July 7, 2025, and from other information sources described herein. Certain indicators of the presence of hazardous materials or petroleum hydrocarbons not readily observable during the reconnaissance may become observable at a later date. Readily available public information sources were reviewed as providing complete and accurate information, without independent verification. The findings and conclusions in this memorandum are based solely on the limited scope of the ISA Memo, including information from a variety of sources. The limitation in the scope of an ISA Memo is, in part, based on third party sources and significant assumptions. Therefore, Subject Properties may include hazardous material or petroleum hydrocarbon releases in areas not identified in this memorandum.

Project Description

National Trails Highway (NTH) Bridge 85 (Lamego Ditch) Replacement Project (Project) proposes to replace one timber trestle bridge. The existing two-lane highway holds historical and local circulation importance and this segment of the NTH has been determined to qualify as eligible to the National Register of Historic Places, although the Lamego Ditch bridge is not eligible as a contributing feature. The bridge was built in 1930 and spans over Lamego Ditch. The underpinnings of the existing bridge consist of timber stringer spans with a laminated timber deck supported on timber strutted abutments.

The San Bernardino County Department of Public Works (County) proposes to replace the timber trestle bridge with a concrete bridge on the NTH, formerly known as Route 66. The Project is located between the unincorporated communities of Amboy and Chambless, in San Bernardino County, approximately 4.18 miles east of the NTH/Kelbaker Road intersection (**Figure 1. Project Vicinity**; **Figure 2. Project Location**; **Figure 3. USGS Topographic Map**; **Figure 4. Project Area**). The Subject Properties, which include two parcels within the Project Area, encompasses approximately 21.9 acres. Land use is OS – Open Space (San Bernardino County 2025a). The Subject Properties are situated within the Cadiz USGS 7.5’ quadrangle, within T6N, R13E, Sec 36.

The existing, two-lane bridge will be replaced with a concrete bridge designed to AASHTO standards for two-lane concrete bridges, guardrails, guardrail end treatments, and approaches (**Appendix A**). The existing soil is sandy and susceptible to scour, so pile extensions would be utilized at the piers, and the abutment foundation would be designed for scour. Additionally, rock slope protection will also be utilized to prevent scour. The bridge barrier would be a Type 85 concrete barrier with bicycle railing painted white, which is Manual for Assessing Safety Hardware (MASH) approved and best matches the original railing. The bridge length may be lengthened as needed to convey the storm flows. The replacement bridge would accommodate two 12-foot-wide lanes, two 3-foot-wide shoulders and two 2-foot-wide railings. The vertical profile of the bridge will remain close to the existing profile unless it is determined that additional vertical clearance is required to provide sufficient water conveyance beneath the bridge. It is anticipated that any such necessary changes in vertical profiles would be three feet or less, with the elevation gradually conforming to the existing roadway elevation.

The Project will utilize local funds. As such, the Project requires compliance with the California Environmental Quality Act (CEQA). The lead agency for CEQA compliance is the County.

Purpose

The purpose of the Project is to replace the existing bridge in order to:

- Enhance safety on National Trails Highway by providing a new vehicular crossing for this structure;

- Provide a transportation facility consistent with County Standards, as well as local and regional plans.

Need

Full replacement of the bridge is needed because the current structure does not meet structural design standards.

Records Review

Land uses in proximity to the Subject Properties were reviewed for potential sources of hazardous waste contamination. Land uses adjacent to the Subject Properties are zoned as Resource Conservation and are currently vacant. No industrial or agricultural land uses are within one-mile of the Subject Properties that were identified as potential sources of contamination.

A review of the California State Water Resources Control Board's GeoTracker Database on October 3, 2025 (see **Appendix B**) indicated that there are no sites within proximity to the proposed Project. A review of DTSC's EnviroStor database (see **Appendix B**) on September 15, 2025, which tracks cleanup, permitting, enforcement and investigation efforts at hazardous waste facilities, found no records of past or current contamination within one mile of the Project. Therefore, no further discussion of known contamination sites is warranted.

Naturally Occurring Asbestos (NOA) can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped within or in the near vicinity of the Project area.

Historic Aerials

Dokken obtained the historic aerials from the U.S. Geological Survey's EarthExplorer website in the single frame aerial collection: 1947, 1948, 1954, 1975, 1977, 1978, and 1981. The aerials are at different scales and resolutions. The 1995 image is a digital orthoquadrangle (DOQ). The color images from 2003 to present are part of the National Agriculture Imagery Program (NAIP) program. The aerials show a slow progression of low density rural development in the community of Chambless.

The 1947 aerial shows a cluster of buildings on the southwest corner of NTH and Cadiz Road, approximately 1.4-miles east of the Subject Properties. The 1948 and 1954 aerials look similar to the 1947 aerial photo. The 1975 aerial is of a low resolution. On the adjacent parcel southwest of the bridge, there is an indication that construction activity associated with the Road Runner's Retreat has started or is complete. The 1977 aerial photograph shows at least two buildings and several rows of trees associated with the Road Runner's Retreat. The 1977 aerial shows at least one structure and a linear shadow in a north/south orientation located on the same assessor's parcel as the bridge. The structure is approximately 0.14-miles southwest of the bridge. The 1995 aerial photograph is a higher resolution than the 1978 and 1981 aerials. Two buildings, or possibly recreational vehicles, are visible. The 2003 image shows indications of fire that destroyed the structures and the vegetation. The 2005, 2009, 2012, 2014, 2019, and 2023 show no structures, some debris, and at least one power pole. Images from GoogleEarth StreetView circa November 2007 show several vertical pole-like structures, two of which appear to be dead palm trees with a few fronds in the vicinity of the buildings visible on the 1995 aerial.

Power lines parallel the NTH approximately 190-feet south of the NTH. The first aerial image

where the shadows of the poles are clearly visible is from 2012. No transformers were observed on the power lines on the Subject Properties.

Historic Topographic Maps

The 15-minute Cadiz topographic map dated 1956 (1958 edition) shows the NTH and "dikes" on the Subject Properties. East of the bridge, buildings, dirt roads, and a water tank are located around Chambless. The 1985 edition of the 7.5-minute Cadiz topographic map dated 1985 shows additional development in Chambless, several buildings southwest of the bridge, and uses the term "levee" instead of "dike" for the berms on the north side of NTH. The 2012 and subsequent maps lack buildings, other structures such as wells, and prior disturbance such as borrow pits and dikes.

Related Studies

The County has prepared Initial Site Assessments (ISA) for other NTH bridge replacement projects. The ISAs are relevant to the Project as the NTH timber bridges, including Bridge 85 Lamego Ditch, were constructed in 1930, are comprised of the same components and material, and went through major rehabilitations, including redecking, during similar time periods.

The County replaced the Dola Ditch and Lanzit Ditch bridges, which are 2.11 miles and 1.43 miles west of the Lamego Ditch bridge Subject Properties, respectively. Hazardous materials sampling was performed on the bridges. The two bridges were tested for aerially deposited lead (ADL) and chromium in 2017 (see **Appendix C**). Less than 50 parts per million (ppm) for lead and chromium were found. Therefore, due to the low ppm, ADL is not a concern for any of the bridges.

The *Asbestos and Lead-Based Paint Survey Report, Lanzit Ditch Bridge* (TetraTech 2015) identified no asbestos containing material (ACM) within the bridge components including vibration dampers and concrete form wrap based on six samples collected and submitted for laboratory analysis (see **Appendix C**). Therefore, it is presumed that the other timber bridges contain no ACM and Phase II investigations are not necessary. The lead-based paint (LBP) sampling at the Lanzit Ditch bridge (TetraTech, 2015) identified LBP in several of the bridge components, including the bridge barriers; therefore, LBP is assumed present for Bridge 85. Contractors will be directed to handle painted surfaces accordingly.

San Bernardino County's NTH at 10 Bridges Project prepared an ISA for ten timber bridges, one of which is approximately 3.09 miles west of the Project. In 2022, Caltrans reviewed and concurred with the recommendations of the ISA that no further ACM, ADL, or Phase II analyses were needed. The contractor would be directed to handle potential LBP and treated wood members per Caltrans Standard Special Provisions and Department of Toxic and Substances Control (DTSC) regulations, as applicable.

Treated wood along bridge deck barriers and supports underneath each bridge, and utility poles, likely contain chemicals, e.g., creosote, which pose a risk to human health and the environment and must be handled in accordance with CCR, Title 22, Division 4.5 implemented by the Department of Toxic Substances Control (DTSC). Section 14-11.14 provides guidelines on handling, storing, transporting, and disposing of Treated Wood Waste (TWW). The County follows the regulations adopted by DTSC regarding TWW, which may be handled as a regulated solid waste and disposed of in a State Water Resources Control Board certified solid waste landfill.

Reconnaissance of the Subject Property and Vicinity

Dokken conducted site reconnaissance on July 7, 2025 (see **Appendix D** for photos of site). Visual observations for the roadway were recorded. The weather was clear skies and dry conditions, which did not limit the observations of potential REC's. The Subject Property evaluated as part of the site reconnaissance for the bridge replacement and temporary detour was limited to the extents of the Project limits which are 1,620-feet long by 455-feet wide centered on the bridge. The site reconnaissance confirmed a graded access road paralleling the NTH to the south and the storm drainage levees on the north side of the NTH.

Yellow thermoplastic paint (**Appendix D**. Photo Log) was observed in the centerline striping of the roadway; white striping was observed to mark the fog line on roadway. White paint was observed on the posts and guardrails on the bridge and along the approaches. The bridge is of timber construction. Multiple wood components of the bridge are treated wood. Power poles that parallel NTH are inside the Subject Property limits.

Photos taken during the site reconnaissance confirm the presence of power poles associated with the former structures southwest of the bridge, trunks of two dead palm trees without any fronds, debris, and a rusting, metal cylinder that may be a water tank associated with a well. These items are outside of the Subject Properties.

The Project would occur within previously disturbed areas along a rural road corridor. There were no indications of unusual staining on the ground surface. There were no above ground storage tanks (ASTs) or storage sites, or structures that would be used for chemicals or other hazardous materials within the Subject Properties. There were no indications of improper storage of chemicals or observable indications of previous storage areas on-site. There was no indication of past manufacturing or industrial uses. Construction would not require the removal of any buildings or structures besides the bridge.

Potential Waste Generated by the Project

The Project has the potential to generate waste as a result of the demolition of the existing bridge and the construction of the bridge replacement. Wastes anticipated to be generated by the Project include treated wood from the existing timber bridge, old metal beam guardrails, treated wood guardrail posts, and any wooden guardrail post that is being updated to metal beam guardrail. No impacts to treated wood power poles are anticipated. The TWW should be handled and disposed of according to County and Caltrans guidelines.

Yellow thermoplastic striping was observed during the site reconnaissance. Painted wood and guardrails were observed. During the construction, the Contractor will comply with Section 14-11.12 of the Caltrans standard specification, and waste should be handled and disposed of according to County and Caltrans guidelines.

Soil sampling for ADL has been previously conducted along similar stretches of NTH. ADL and chromium soil sampling results concluded the soils would not require special handling or be characterized as hazardous waste based on lead content being within the range of naturally occurring background levels (**Appendix C**: Sampling Reports). As concentrations were identified to be below all applicable human health screening and waste characterization criteria for these nearby projects with similar historical volumes, a Phase II ISA or a Limited Site Investigation is not required to evaluate for the presence of ADL in the proposed work areas.

ISA Findings, Conclusions and Recommendations

The scope of this memorandum is limited to anecdotal and visual evidence of potential RECs and does not include verification of RECs based on environmental testing. A review of the published lists of known hazardous substance sites provided by GeoTracker and EnviroStor, did not identify any RECs within 1 mile of the property location (**Appendix B**. GeoTracker and EnviroStor Database Search Results).

Recognized Environmental Conditions (RECs)

Based on the governmental records search, aerial photographs, topographic map review, and a visual site assessment, this assessment has revealed no RECs associated with the Subject Properties.

As is the case for any project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during project construction (such as previously undetected petroleum hydrocarbon contamination from former underground storage tanks). For any previously unknown hazardous waste/material encountered during construction, the procedures outlined in the **Caltrans Hazardous Procedures for Construction** (**Appendix E.**) will be followed.

The Contractor shall comply with Cal OSHA Title 8, Section 1532.1 during construction. Compliance will include providing information to the contractor regarding potential hazardous chemicals to which they may be exposed, a hazard communication program, labels and other forms of warning, safety data sheets, and information and training.

Yellow thermoplastic striping

Potential lead and heavy metals associated with pavement striping. Implementation of improvements may require the removal and disposal of yellow traffic stripe and pavement marking materials (paint, thermoplastic, permanent tape, and temporary tape). Yellow paints made prior to 1995 may exceed hazardous waste criteria under Title 22, California Code of Regulations, and require disposal in a Class I disposal site. The Contractor shall comply with the County of San Bernardino and Caltrans Standard Specifications and Standard Special Provisions, as applicable.

Lead Paint

There is potentially LBP on the wood elements of the bridge and on the metal railings that make up the bridge barriers. Structures constructed prior to 1978 are presumed to contain LBP unless proven otherwise. Structures constructed after 1978 may also contain LBP. The Contractor shall comply with the County of San Bernardino and Caltrans Standard Specifications and Standard Special Provisions, as applicable.

Chemically Treated Wood

Treated wood along bridge deck barriers and supports underneath each bridge, and wood utility poles, likely contain chemicals, e.g., creosote, which pose a risk to human health and the environment and must be handled in accordance with CCR, Title 22, Division 4.5 implemented by the Department of Toxic Substances Control (DTSC). Section 14-11.14 provides guidelines on handling, storing, transporting, and disposing of TWW. Caltrans follows the regulations adopted by DTSC regarding TWW, which may be handled as a regulated solid waste and disposed of in

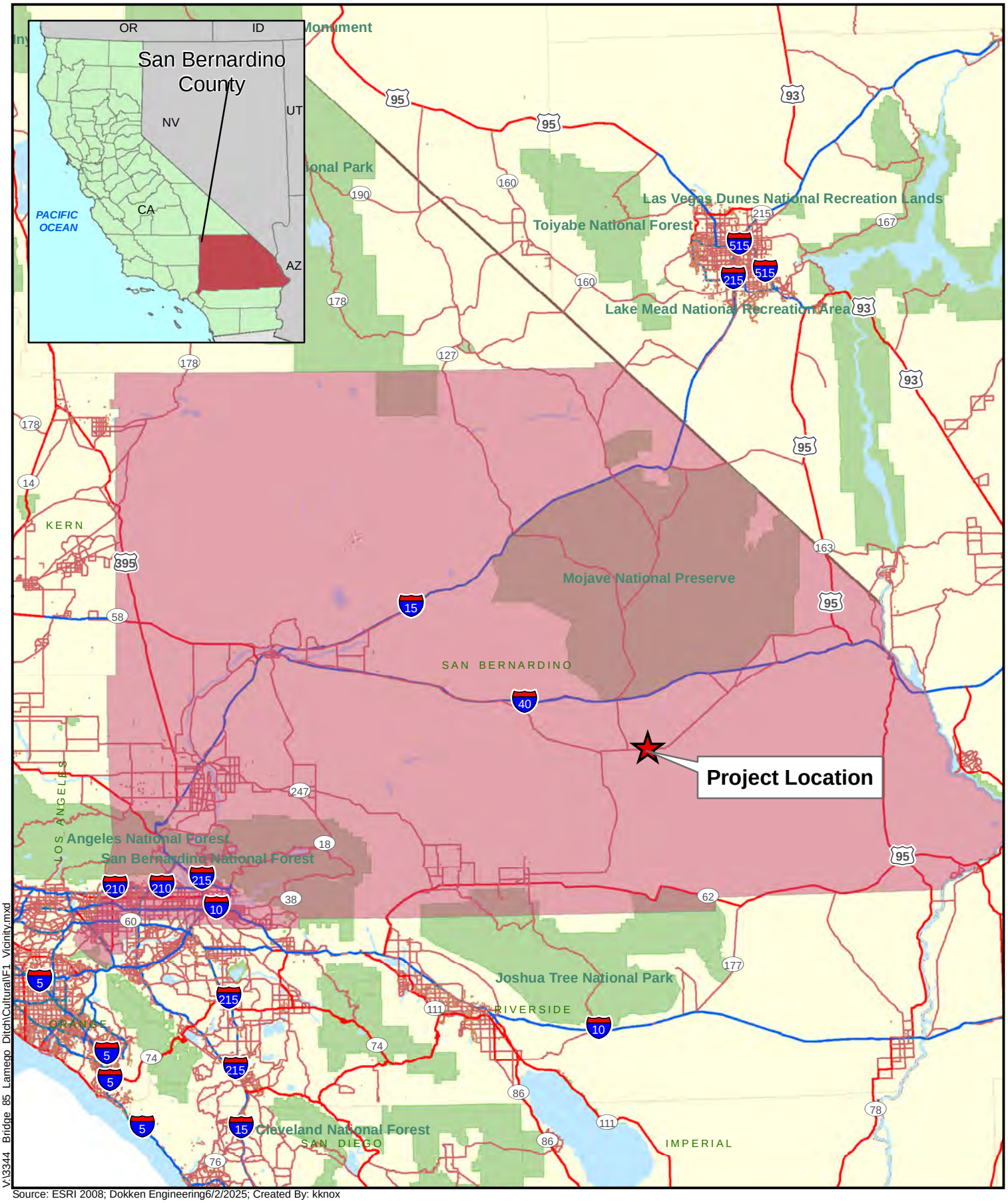
a State Water Resources Control Board certified solid waste landfill. Treated wood also includes wood utility poles.

Statement of Compliance
This memorandum consists of professional opinions and recommendations made in accordance with generally accepted environmental principles and practices. The conclusions are based upon an evaluation of the information gathered and general observations of conditions prevalent at the Project site during the site visit. This memorandum does not otherwise provide any implied or expressed guarantees regarding the characteristics or conditions of environmental media at the Subject Properties.

ATTACHMENTS:

Appendix A: Figures and Plansheets
Appendix B: GeoTracker and EnviroStor Database Search Results
Appendix C: Sampling Reports
Appendix D: Photo Log
Appendix E. Caltrans Hazardous Procedures for Construction

APPENDIX A: Figures and Plansheets



Source: ESRI 2008; Dokken Engineering6/2/2025; Created By: kknox

0 10 20 30 Miles

Figure 1
Project Vicinity

National Trails Highway Bridge 85 (Lamego) Replacement
Project San Bernardino County, California

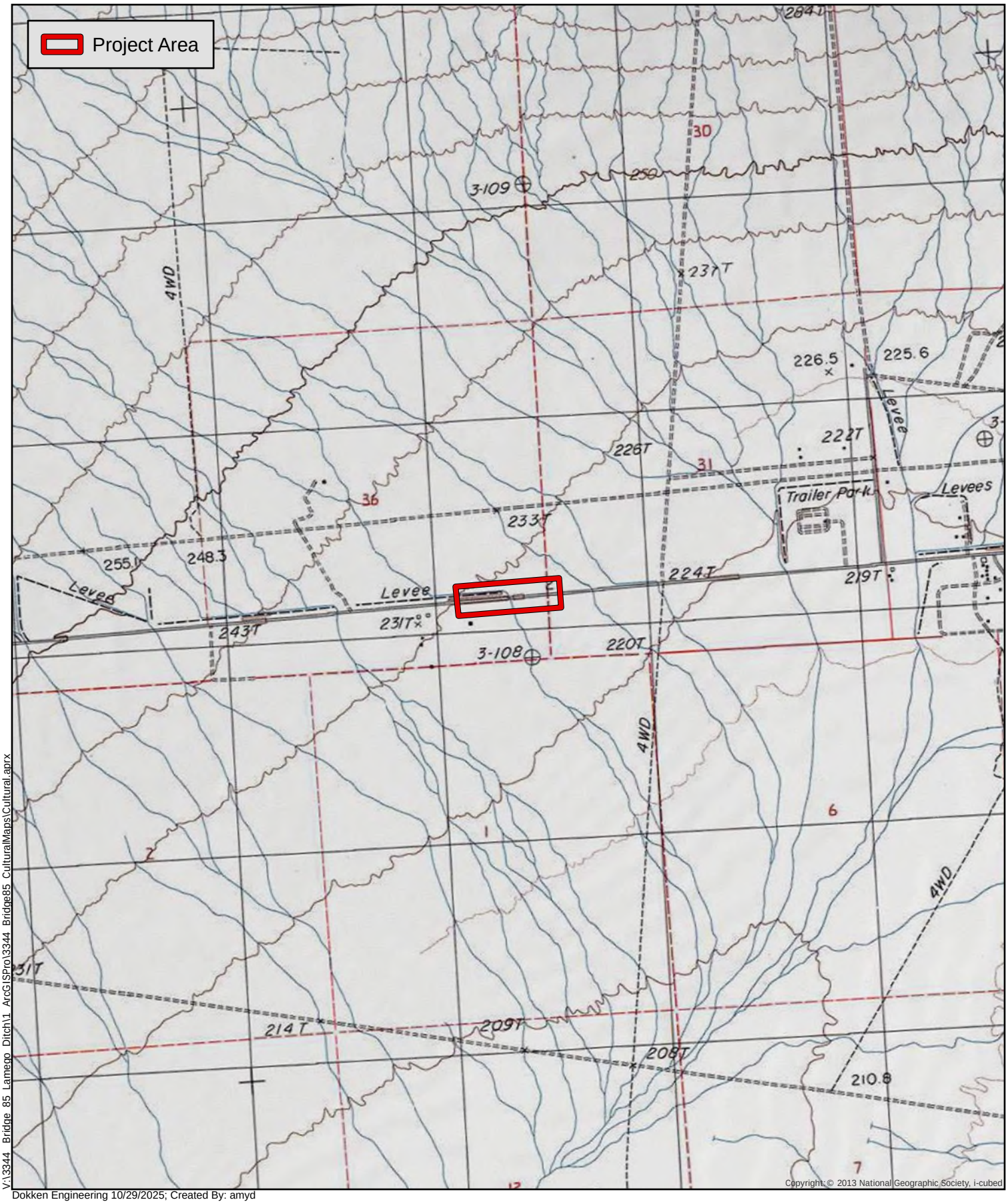
v:\1836_11thStBridge\Cultural\F2_Loc_10-12-10.mxd

Source: ESRI World Street Maps Online; Dokken Engineering 5/8/2025; Created By: amyd

0 1 2 3 4 Miles

Figure 2
Project Location

National Trails Highway Bridge 85 (Lamego) Replacement Project
San Bernardino County, California

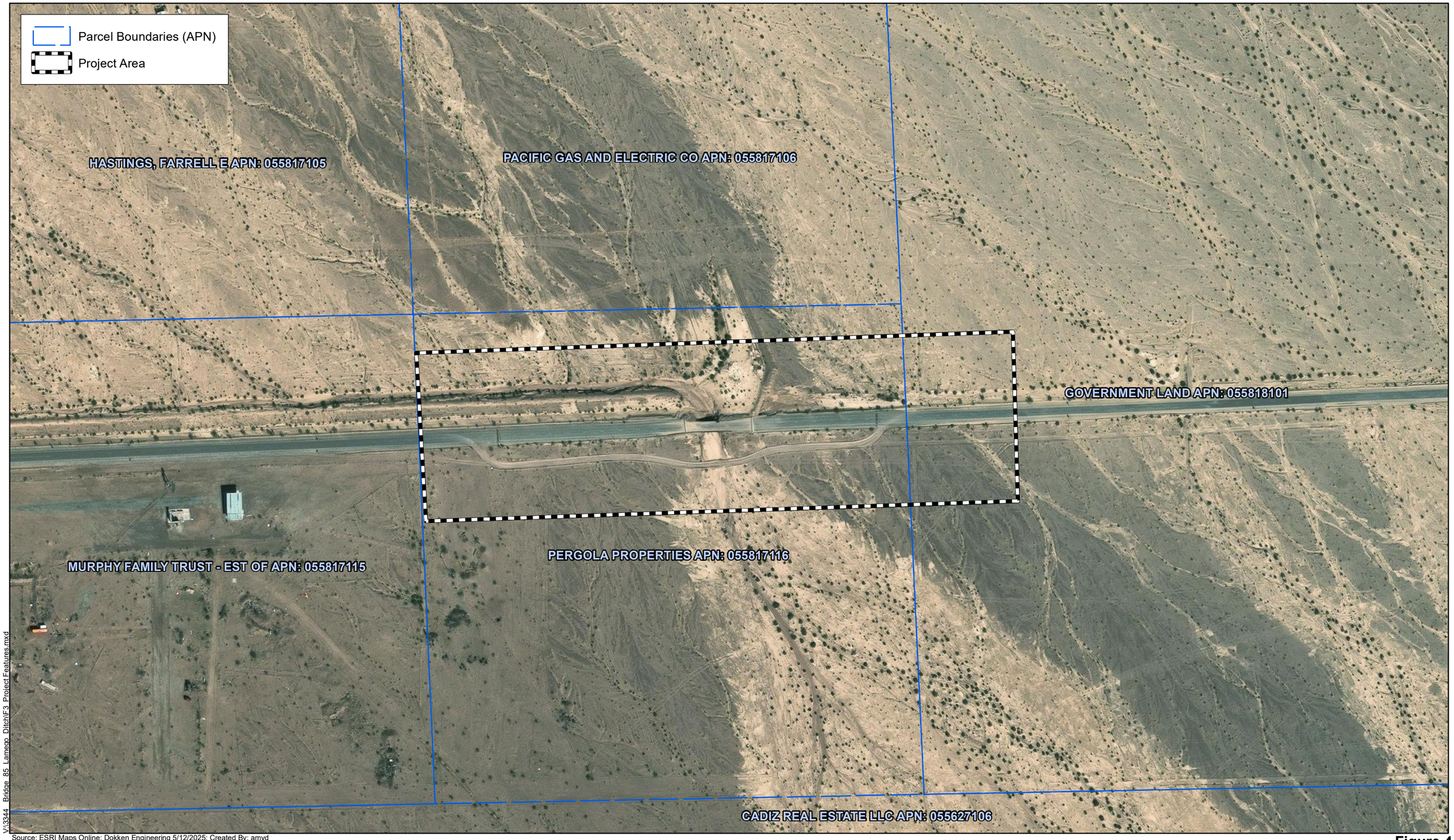


V:\3344 Bridge 85 Lamego Ditch\1 ArcGISPro\3344 Bridge85 CulturalMaps\Cultural.aprx

Dokken Engineering 10/29/2025; Created By: amyd

0 1,000 2,000 Feet

Figure 3
USGS Topographic Map
USGS 7.5-minute Quad: Cadiz
Township 6N; Range 13E; Section 36
National Trails Highway Bridge 85 (Lamego) Replacement Project
San Bernardino County, California



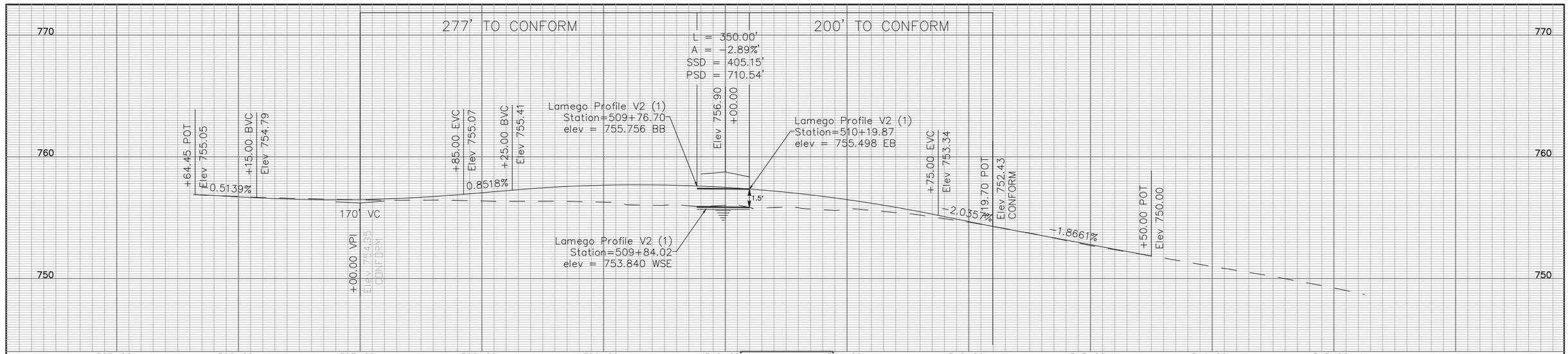
V:\3344_Bridge_85_Lamego_Ditch\F3_Project Features.mxd

Source: ESRI Maps Online; Dokken Engineering 5/12/2025; Created By: amyd

0 200 400 600 800 1,000 Feet

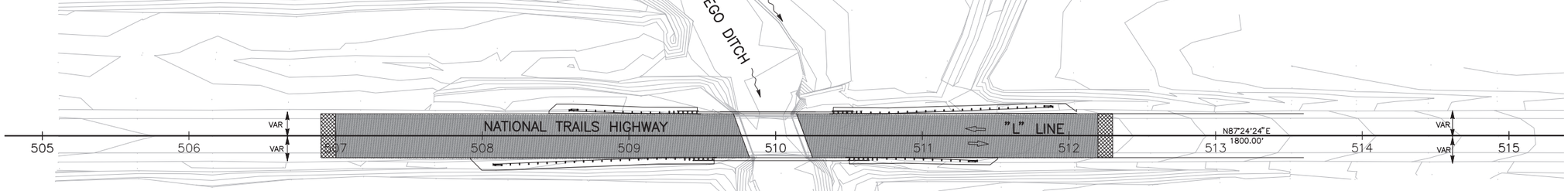
Figure 4
Project Area

National Trails Highway Bridge 85 (Lamego) Replacement Project
San Bernardino County, California



PROFILE

SCALE: HORIZ 1"=40'
VERT 1"=4'



CONSTRUCTION NOTES

1. PLACE 0.45' HOT MIXED ASPHALT TYPE A OVER 0.80' CLASS 2 AGGREGATE BASE WITH 2 LAYERS OF TACK COAT INBETWEEN.
2. INSTALL MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION, PER CALTRANS STD PLAN A77L1, CONSTRUCT MINOR CONCRETE AND BLOCK-OUT MATERIAL PER CALTRANS STD PLAN A78C3
3. INSTALL ALTERNATIVE IN-LINE TERMINAL SYSTEM PER CALTRANS STD. PLAN A77N14.
4. INSTALL MINOR CONCRETE VEGETATION CONTROL GUARDRAIL SYSTEM, PER CALTRANS STD. PLAN RSP A77N5.
   SEE EROSION CONTROL PLANS FOR BMP ON SLOPES PER CASQA STD.
5. INSTALL HOT MIXED ASPHALT DIKE (TYPE A), PER CALTRANS STD PLAN A77N4 AND A87B. GRADE TO DRAIN
6. PLACE 0.5' CLASS 2 AGGREGATE BASE.
7. PLACE SHOOFLY CONFORM
8. COLD PLANE 2" MIN AND OVERLAY HMA (TYPE A). SEE COLD PLANE OVERLAY (HMA) DETAIL, C-1.
9. INSTALL 3'x6' RSP (60 LB, CLASS II, METHOD B) AT THE OVERSIDE DRAIN. SEE C-1 FOR MORE DETAILS.
10. INSTALL TRANSITION RAILING (TYPE WB-31), PER CALTRANS STD PLAN A77U4.
11. TO REMOVE AND RESET HISTORIC MILE MARKERS AND CONCRETE ROW MARKERS.
12. OBLITERATE SURFACE TO A MINIMUM DEPTH OF 6" OR TO THE BOTTOM OF THE
13. IMPERMEABLE UNDERLYING BASE.
    REMOVE YELLOW PAINTED TRAFFIC STRIPE
14. (HAZARDOUS WASTE).
    REMOVE PAINTED TRAFFIC STRIPE.
    REMOVE GUARDRAIL.
15. REMOVE RAILING (K-RAIL)
    ROADWAY EXCAVATION.
16. REMOVE BRIDGE.
17. CONTRACTOR SHALL VERIFY DEPTH OF ALL
18. UTILITIES PRIOR TO CONSTRUCTION, CALL
19. 811.
20. CONSTRUCT OVERSIDE DRAIN PER CALTRANS
21. STD PLAN D87D. SEE C-1 FOR RSP FOR
22. OVERSIDE DRAIN.
23. PLACE FIBER ROLL.

L-1

PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

LEGEND:

- DIRECTION OF TRAFFIC
- PROPOSED PAVEMENT
- COLD PLANE OVERLAY (HMA)

N

GRAPHIC SCALE 1"=40'
0 40 80 120

PREPARED BY:

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA. 916-858-0642

ROSA GRIGGS, PROJECT ENGINEER — DATE

MARK	CHANGES		
	NO CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES

ROSA GRIGGS No. 54189 Exp.12/31/25 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

SAN BERNARDINO COUNTY

DESIGNED BY:	DRAWN BY:	CHECKED BY:	RECOMMENDED BY:
HF	HF	AK	CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER — DATE

LEI (ROCKY) LI, P.E. SUPERVISING ENGINEER — DATE

APPROVED BY:
MERVAT N. MIKHAIL, P.E. DEPUTY DIRECTOR — DATE

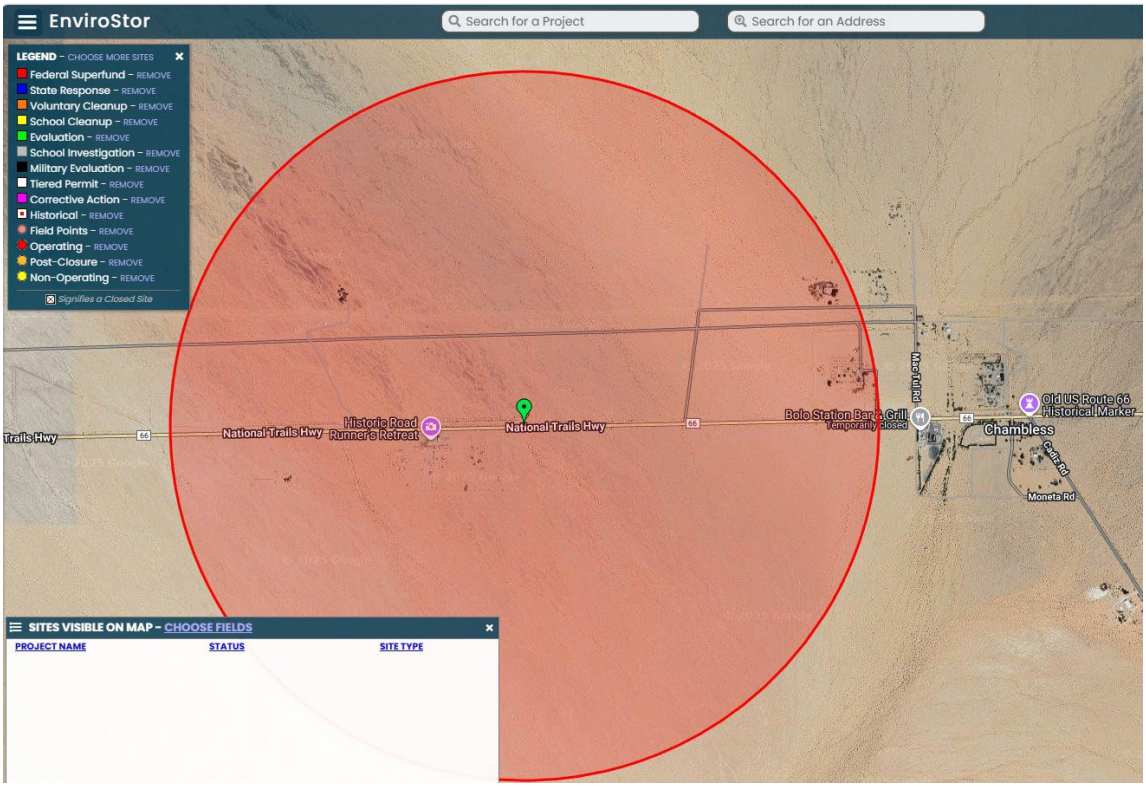
BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT BRIDGE 85

PLAN AND PROFILE

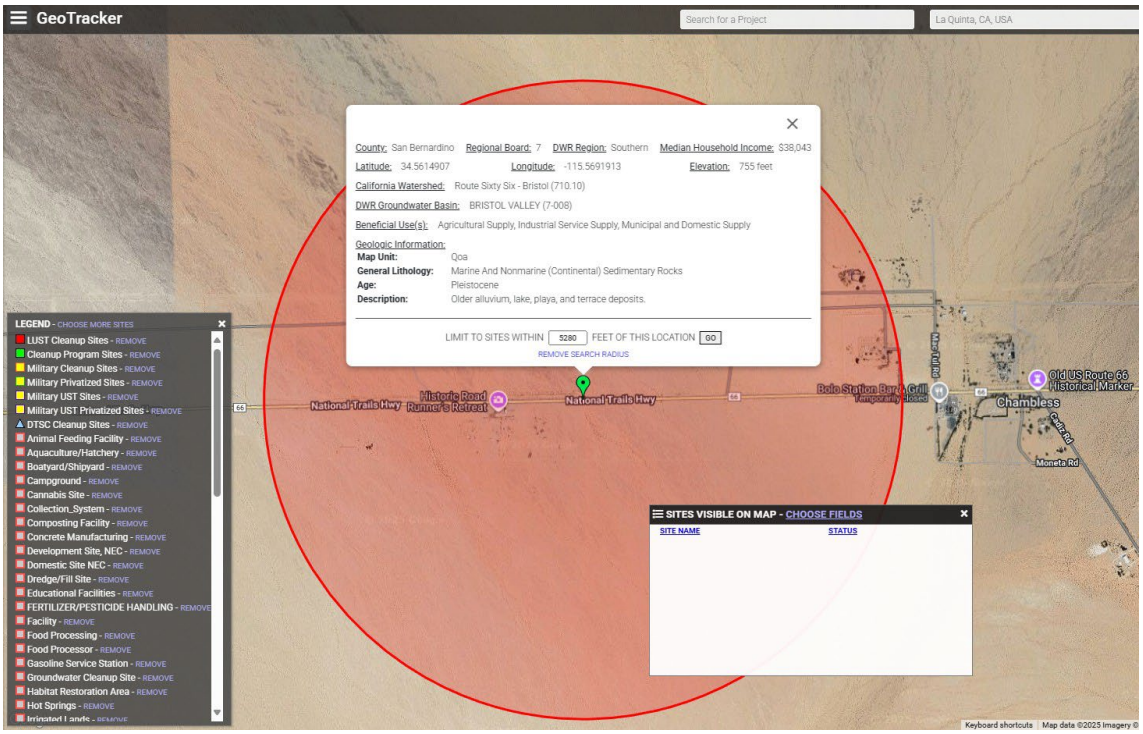
LAMEGO DITCH

J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S.
		1"=40'	xx	

APPENDIX B: EnviroStor and GeoTracker Database Search Results



California State Water Resources Control Board, 2025, Geotracker Database, http://geotracker.waterboards.ca.gov.



California Department of Toxic Substances Control, 2025, EnviroStor Database, http://www.envirostor.dtsc.ca.gov/.

APPENDIX C: Sampling Reports.

AAA LEAD Consultants and Inspections, Inc., 2017, Clearance Soil Sampling Report for the Presence of Lead and Chromium at the Dola and Lanzit Bridge Locations in Amboy, CA).

Tetra Tech DIV, 2015, Asbestos and Lead-Based Paint Survey Report for Lanzit Ditch Bridge.

TETRA TECH

Asbestos and Lead-Based Paint Survey Report

Lanzit Ditch Bridge
County Local Bridge No. 82
Caltrans State Bridge No. 54C0286
Federal Project BRLO-5954(094)
San Bernardino County, California

April 14, 2015

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Asbestos and Lead-Based Paint Survey Report

Lanzit Ditch Bridge
County Local Bridge No. 82
Caltrans State Bridge No. 54C0286
Federal Project BRLO-5954(094)
San Bernardino County, California

Prepared for:

Tetra Tech BAS

1360 Valley Vista Drive
Diamond Bar, CA 91765

Prepared by:

Tetra Tech DIV

301 East Vanderbilt Way
Suite 450
San Bernardino, California 92408
909.381.1674
Fax 909.889.1391
Tetra Tech Project No. 34116

April 14, 2015

CONTENTS

Page

FIGURES

APPENDICES

EXECUTIVE SUMMARY

Tetra Tech, Inc. was contracted by Tetra Tech BAS to conduct an Asbestos and Lead-Based Paint Survey for a bridge, known as the Lanzit Bridge in San Bernardino County, California. The Asbestos and Lead-Based Paint Survey was conducted in accordance with the Scope of Work and Cost Proposal dated March 12, 2015. The Asbestos and Lead-Based Paint Survey field activities were conducted on March 19, 2015.

The bridge is near the San Bernardino County community of Amboy, along Highway 40. The Lanzit Bridge was comprised of comprised of asphalt, wood and metal construction.

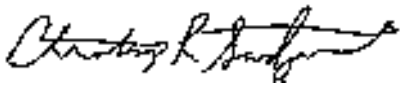
During the Asbestos Survey, a total of six samples were collected and submitted for laboratory analysis and analyzed by polarized light microscopy (PLM) using method EPA 600/R-93/116 by a National Voluntary Laboratory Accreditation Program (NVLAP) certified laboratory. Suspect materials are summarized in Section 3.1.1. Results of the analysis identified no asbestos-containing materials (ACM) of the bridge components. During the Lead-Based Paint Survey, a total of 46 samples were collected and analyzed by X-ray Fluorescence (XRF). Painted materials are summarized in Section 3.2.1. Results of the analysis identified lead-based paint (LBP) in several of the bridge components.

We appreciate the opportunity to work with you on this project. If you have any questions concerning the findings, conclusions and recommendations contained in this report, please call the undersigned at (909) 381-1674.

Prepared by:

Heidi Yavornicky
Environmental Scientist
CSST #08-4319, DPH #19759
Tetra Tech, Inc.

Reviewed by:



Chris Surdzial
Principal Environmental Scientist
CAC #03-3435, DPH #14751
Tetra Tech, Inc.

SECTION 1
INTRODUCTION

1.1 PROJECT DESCRIPTION

Tetra Tech, Inc. was contracted by Tetra Tech BAS to conduct an Asbestos and Lead-Based Paint Survey for a bridge, known as the Lanzit Bridge in San Bernardino County, California. The Asbestos and Lead-Based Paint Survey field activities were conducted on March 19, 2015. Findings and conclusions are described in Sections 5 and 6, respectively. Figures 1 through 3 depict the site vicinity, site location and sample locations. The field logs, analytical report and chain of custody documentation and consultant and laboratory certifications are provided in the appendices. Applicable site photographs are also attached to this report.

1.2 BACKGROUND

The bridge is near the San Bernardino County community of Amboy, along Highway 40. The Lanzit Bridge was comprised of asphalt, wood and metal construction. It is Tetra Tech's understanding the bridge will be demolished and rebuilt.

1.3 SCOPE OF WORK

The Asbestos and Lead-Based Paint Survey was conducted in accordance with the Scope of Work and Cost Proposal dated March 12, 2015 and consisted of the following:

- Collected asbestos bulk samples of suspect asbestos-containing materials (ACMs), and submitted samples to the laboratory for analysis.
- Collected lead-based paint (LBP) samples, analyzed by X-ray Fluorescence (XRF).
- Preparation of this report.

Ms. Yavornicky, State-certified Site Sampling Technician (CSST #08-4319) and California Department of Public Health (DPH) Certified Lead Sampling Technician (#19759), conducted the survey sampling activities under the supervision of Mr. Chris Surdzial, State-certified Asbestos Consultant (CAC #03-3435) and DPH Certified Lead Inspector/Risk Assessor and Project Monitor (#14751).

1.4 LIMITATIONS AND EXCEPTIONS

This report was compiled based partially on information supplied to Tetra Tech from outside sources and other information in the public domain. The conclusions and opinions herein are based on the information Tetra Tech obtained in compiling the report. This information is on file at Tetra Tech's office in San Bernardino, California. Tetra Tech makes no warranty as to the accuracy of statements made by others which may be contained in the report, nor are any other warranties or guarantees, expressed or implied, included or intended by the report except that it has been prepared in accordance with the current generally accepted practices and standards consistent with the level of care and skill exercised under similar circumstances by other professional consultants or firms performing the same or similar services. Because the facts forming the basis for the report are subject to professional interpretation, differing conclusions could be reached. Tetra Tech does not assume responsibility for the discovery and elimination of hazards that could possibly cause accidents, injuries, or damage. Compliance with submitted recommendations or suggestions does not assure elimination of hazards or the fulfillment of client's obligations under local, state, or federal laws or any modifications or changes to such laws. None of the work performed hereunder shall constitute or be represented as a legal opinion of any kind or nature, but shall be a representation of findings of fact from records examined.

SECTION 2
PRE-FIELD WORK ACTIVITIES

2.1 PRE-FIELD WORK ACTIVITIES

Access to the bridge to conduct the survey sampling activities was scheduled through Tetra Tech BAS prior to arrival. No other pre-field work activities were necessary or conducted.

2.2 TRAFFIC CONTROL

No traffic control equipment or devices were required during the survey sampling activities.

SECTION 3
FIELD ACTIVITIES

The Asbestos and Lead-Based Paint Survey field activities were conducted on March 19, 2015. Ms. Yavornicky, CSST #08-4319 and DPH Certified Lead Sampling Technician #19759, conducted the survey sampling activities under the supervision of Mr. Chris Surdzial, CAC #03-3435 and DPH Certified Lead Inspector/Risk Assessor and Project Monitor #14751.

3.1 ASBESTOS SAMPLING

3.1.1 Sampling Procedures

Prior to sampling, the bridge was visually surveyed for potentially asbestos-containing materials and homogeneous areas (i.e. areas that have uniform color, texture, and appearance). Suspect materials in the bridges were divided into friable and non-friable materials and placed in one of the following U.S. Environmental Protection Agency (EPA) categories:

- Surfacing Materials (sprayed or troweled-on materials)
- Thermal Systems Insulations (materials generally applied to various mechanical systems)
- Miscellaneous Materials (any materials which do not fit in the above categories)

Our sampling procedures were in general accordance with the standard procedures recommended by the EPA. Bulk samples were collected of the following bridge components:

- Brownish-Black Vibration Damper
- Concrete Form Wrap

Further description of the bridge components is provided in the Asbestos Bulk Sample Logs provided in Appendix A.

3.1.2 Decontamination Procedures

Decontamination procedures were not necessary during the survey sampling activities.

3.1.3 Waste Disposal

There was no waste generated during the survey sampling activities that required disposal.

3.2 LEAD-BASED PAINT SAMPLING

3.2.1 Sampling Procedures

Prior to sampling, the bridge was visually surveyed for painted bridge components. Tetra Tech utilized a XRF device to measure lead content in painted surfaces of the bridge components. The detection level for lead was set at 1.0 milligram per centimeter squared (mg/cm^2) as defined by the EPA and U.S. Department of Housing and Urban Development (HUD). As no inconclusive readings were obtained on the direct read XRF device, no bulk samples of suspect paint were collected or submitted to a laboratory. The following bridge components were surveyed using the XRF device:

- White guard rails; metal and wood
- White guard rail support beams; wood
- Yellow, black and white painted-on road stripes; painted on the concrete and/or asphalt
- White painted-on sign; wood on bridge underside

Further description of the painted bridge components are summarized in Section 4 and the Lead-Based Paint XRF Logs provided in Appendix B.

3.2.2 Decontamination Procedures

Decontamination procedures were not necessary during the survey sampling activities.

3.2.3 Waste Disposal

There was no waste generated during the survey sampling activities that required disposal.

SECTION 4
LABORATORY ANALYSIS

4.1 ASBESTOS LABORATORY ANALYSIS

4.1.1 Bulk Sample Analysis Methodology

Six (6) asbestos bulk samples were collected from the bridge and analyzed by PLM using method EPA 600/R-93/116 by LA Testing, a NVLAP certified laboratory.

4.1.2 Quality Control

Proper chain of custody protocol was followed as a part of the survey sampling activities.

4.1.3 Interpretation of Results

Results of the analysis identified no ACM of the bridge components sampled. The laboratory analytical report and chain of custody documentation is provided in Appendix A. Additionally, site photographs (Photos 1 and 2) depicting the bridge components that were sampled for ACM is attached to this report.

4.2 LEAD-BASED PAINT ANAYSIS

4.2.1 XRF Sample Analysis Methodology

4.2.2 Quality Control

The XRF was calibrated at the start and completion of the survey sampling activities at each bridge. The XRF operated normally during the survey sampling activities.

4.2.3 Interpretation of Results

Based on the XRF readings, the following components were found to contain lead above the HUD definition of 1.0 mg/cm^2:

Summary of LBPs			
Bridge Component	**Paint Color**	**Paint Condition**	**Comments**
LANZIT BRIDGE			
Metal Guard Rail	White	Intact	2 each (1 along each side); each 95 linear feet (190 linear feet total); Photo 10
Black Yellow-Stripe	Black	Peeling	95 linear feet total along middle of bridge; between the center yellow-stripe; Photo

Summary of LBPs			
Bridge Component	**Paint Color**	**Paint Condition**	**Comments**
			10
Wood Lower Guard Rail Beam	White	Peeling	2 each (1 along each side); each 95 linear feet (190 linear feet total); Photo 11
Inner Wood Guard Rail Support Beam	White	Peeling	32 beams total; each beam approximately 2 linear feet (64 linear feet total); Photo 1
Painted Sign	White	Intact	Sign painted on underside of bridge, west side; approximately 3 square feet total; Photo 12

The Lead-Based Paint XRF Logs are provided in Appendix B. Additionally, site photographs (Photos 3 through 5) depicting the bridge components that were found to contain LBP at the bridge are attached to this report.

SECTION 5
FINDINGS

5.1 ASBESTOS SURVEY FINDINGS

5.1.1 Asbestos-Containing Materials

Results of the analysis identified no ACM of the bridge components.

5.1.2 Sampled Materials Where No Asbestos Was Detected

The following bridge components at the bridge was reported as non-detect for asbestos:

- Brownish-Black Vibration Damper
- Concrete Form Wrap

5.1.3 Presumed Asbestos-Containing Materials

No presumed ACM was identified at the bridge.

5.2 LEAD-BASED PAINT SURVEY FINDINGS

5.2.1 Lead-Based Paint Materials

Results of the analysis identified the following bridge components as LBP:

- White guard rails; metal
- Black Yellow-Stripe; painted on asphalt
- White guard rail support beams; wood
- Painted sign; painted on the bridge underside

Section 4.2.3 above provides the specific bridge components at the bridge that were identified as containing LBP.

5.2.2 Sampled Materials Where No Lead-Based Paint Materials Was Detected

The following table summarizes bridge components where no LBP was detected.

Bridge components were no LBP was detected			
Bridge Component	**Paint Color**	**Paint Condition**	**Comments**
LANZIT BRIDGE			
Yellow-Stripe	Yellow	Intact	95 linear feet total along middle of bridge
White-Stripe	White	Intact	190 linear feet total along each side of bridge
Wood Guard Rail Support Beam	White	Peeling	32 beams total; each beam approximately 5 linear feet (160 linear feet total)

5.2.3 Presumed Lead-Based Paint Materials

No presumed LBP was identified at the bridge.

SECTION 6
CONCLUSIONS

Tetra Tech, Inc. has performed an Asbestos and Lead-Based Paint Survey for a bridge, known as the Lanzit Bridge in San Bernardino County, California. The bridge is near the San Bernardino County community of Amboy, Highway 40.

During the Asbestos Survey, a total of six samples were collected and submitted for laboratory analysis and analyzed by PLM using method EPA 600/R-93/116 by a NVLAP certified laboratory. Results of the analysis identified no ACM of the bridge components. During the Lead-Based Paint Survey, a total of 46 samples were collected and analyzed by XRF. Results of the analysis identified LBP in several of the bridge components.

SECTION 7
RECOMMENDATIONS

No special measures regarding work practices regarding asbestos will be required during demolition. No special disposal procedures regarding asbestos will be required.

The LBP can be removed by workers possessing the proper lead abatement training and taking appropriate precautions (engineering controls and work practices) when disturbing LBP. All abatement, disturbance or removal of LBP must be performed by a DPH licensed lead abatement contractor using workers that have undergone the necessary lead training and are DPH certified workers. Tetra Tech further recommends that the LBP removal activities be monitored by an independent third party or consultant knowledgeable in LBP stabilization and abatement procedures and is at a minimum, a DPH certified Lead Project Monitor.

SECTION 8
REFERRENCES

Department of Housing and Urban Development (HUD)

1995 Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing

U.S. Environmental Protection Agency (EPA)

1985 Guidance for Controlling Asbestos-Containing Materials in Buildings (Document No. 560/5-85/024)

1987 40 CFR Part 763, AHERA

SITE PHOTOGRAPHS

Site Photographs
Manix, Dola and Lanzit Bridges
T34116

Photo: 1 **Description: View of the brownish-black vibration damper material at Lanzit Bridge that was reported non-detect for asbestos**	

Photo: 2 **Description: View of concrete form wrap at Lanzit Bridge that was reported non-detect for asbestos**	

Site Photographs
Manix, Dola and Lanzit Bridges
T34116

Photo: 3 **Description: View of the white metal guard rail and center black-stripe at Lanzit Brige that were reported as containing lead-based paint (along both sides of bridge)**	

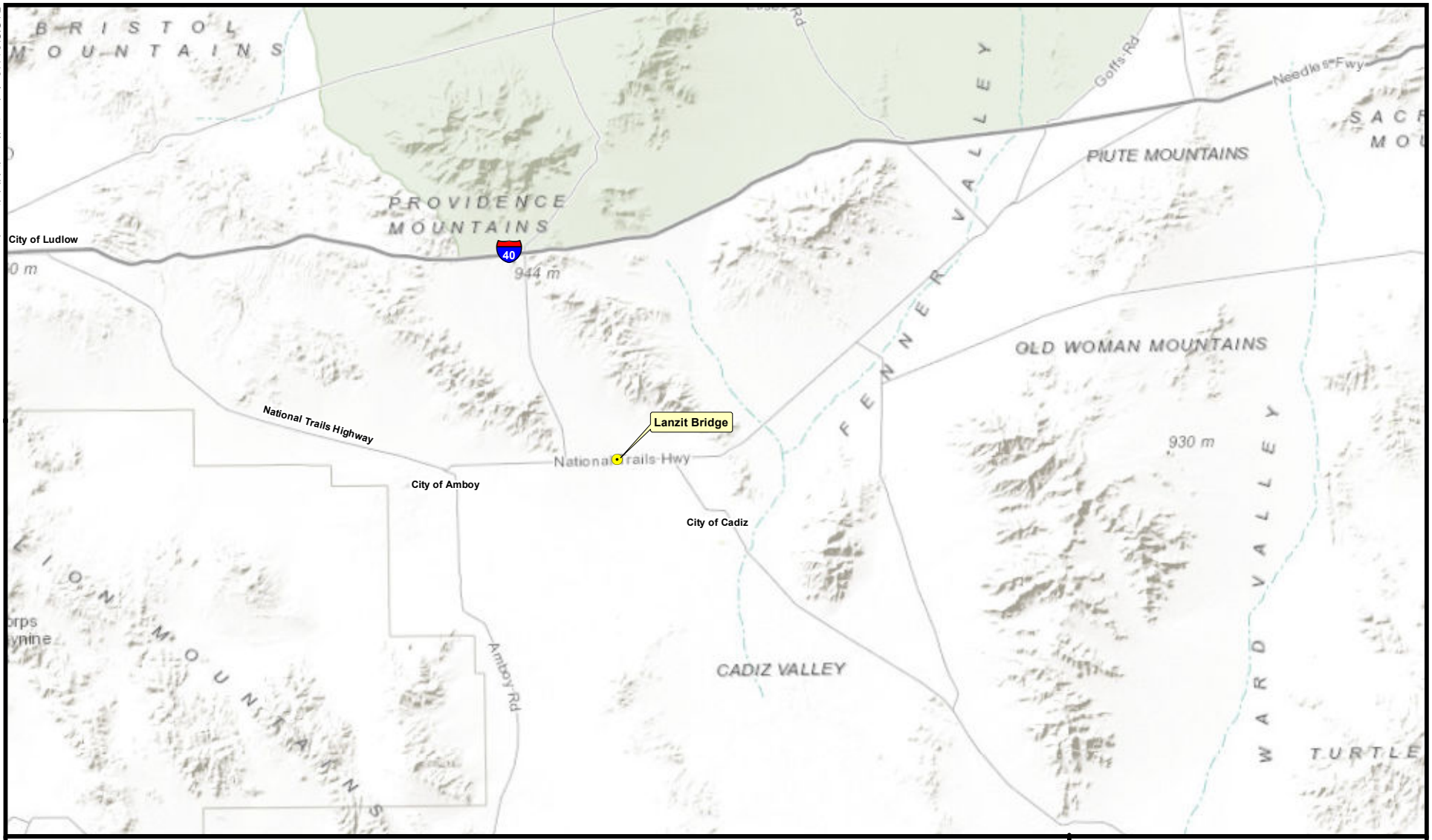
Photo: 4 **Description: View of the wood lower guard rail beam and inner wood support guard rail beams at Lanzit Bridge that were all reported as containing lead-based paint (along both sides of bridge)**	

Site Photographs
Manix, Dola and Lanzit Bridges
T34116

Photo: 5 **Description: View of painted sign on west underside of Lanzit Bridge that was reported as containing lead-based paint**	

FIGURES

P:\GIS\34116_Asbestos\Lanzit_Vicinity.mxd



Basemap Image: ESRI, DeLome, TomTom, Intermap

0 24,000 48,000 Feet

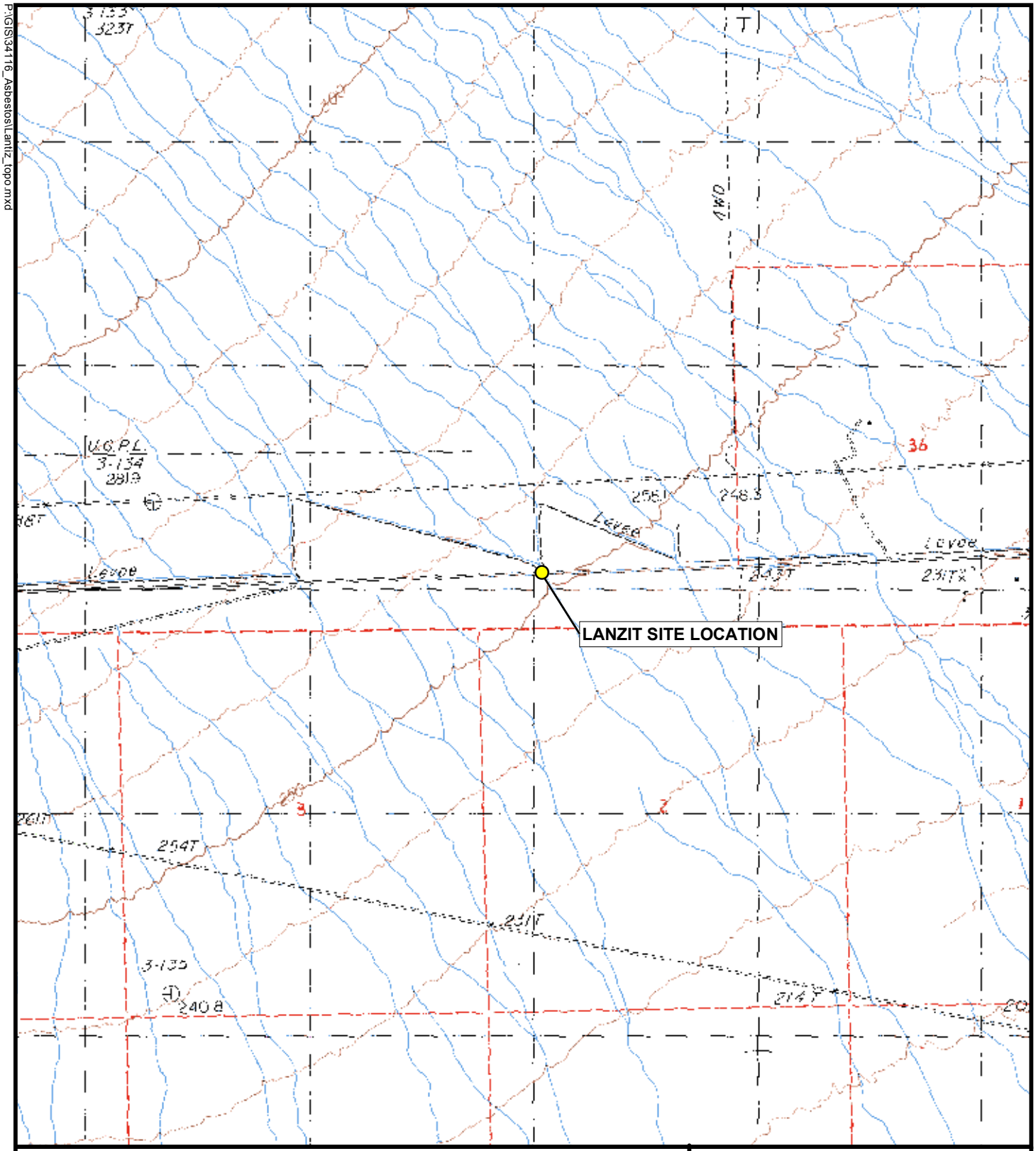
LANZIT BRIDGE

Figure 1

Vicinity Map

TETRA TECH

P:\GIS\34116_Asbestos\Lanziz_topo.mxd



LANZIT BRIDGE

Figure 2

Site Location Map
Lanzit Bridge

0 1,000 2,000 Feet

TETRA TECH

USGS Topographical Quadrangle, Cadiz, 1985.

P:\GIS\34116_Asbestos\Lanzit_Aerial.mxd

Photo 2 - Ground View of Bridge

Photo 1 - Ground View of Bridge

92 93 111 113 123 91 122 95 109 116 110 114 94 108 L-B-3 L-B-2 L-A-1 98 103 L-A-2 L-A-3 101-102 100 L-B-1 118 119 89 120 121 117 113 112 106 96 88 97 107 90

LEGEND

- ● Asbestos Bulk Sample Location
- ○ Lead-Based Paint Sample Location (XRF)

N

0 15 30 Feet

LANZIT BRIDGE

Figure 3

Sample Location Map

TETRA TECH

APPENDIX A **Asbestos Bulk Sample Logs, and Laboratory Analytical Report and Chain of Custody Documentation**

Asbestos Bulk Sample Log

Date: March 19, 2015

Tetra Tech Project No.: 34116

Sampling Technician(s): Heidi Yavornicky

Project Name/Location: Lanzit Bridge

Homogeneous Material: Brownish-Black Vibration Damper

Homogeneous Material #: L-A

Friable/~~Non-Friable~~ (circle one) Condition: ~~Good~~/Fair/~~Poor~~ (circle one)

Sample Number:	Location:	Total Approximate Square Footage of Material:
L-A-1	West	116 square feet
L-A-2	Center	
L-A-3	East	

Photograph Numbers: 1

Notes (i.e. color, layers, substrate, etc. if not noted above): Brittle burlap-type material with some tar-like substance noted; held in place by wire. Observed on 29 posts total (bridge underside); some appeared to have been removed/replaced with non-suspect material.

Tetra Tech, Inc.
301 East Vanderbilt Way, Suite 450, San Bernardino, CA 92408-3559
Tel 909.381.1674 Fax 909.889.1391 www.tetratech.com

Asbestos Bulk Sample Log

Date: March 19, 2015 Tetra Tech Project No.: 34116

Sampling Technician(s): Heidi Yavornicky Project Name/Location: Lanzit Bridge

Homogeneous Material: Concrete Form Wrap Homogeneous Material #: L-B ~~Friable~~/Non-Friable (circle one) Condition: ~~Good~~/~~Fair~~/Poor (circle one)		
Sample Number:	Location:	Total Approximate Square Footage of Material:
L-B-1	West	200 square feet
L-B-2	Center	
L-B-3	East	

Photograph Numbers: 3

Notes (i.e. color, layers, substrate, etc. if not noted above): White, paper-like material with remnant potential mastic. Approximately 6-layers, observed on 9 columns. Some noted as “sonotube”.

LA Testing
11652 Knott Street Unit F5, Garden Grove, CA 92841
Phone/Fax: (714) 828-4999 / (714) 828-4944
http://www.LATesting.com gardengrovelab@latesting.com

LA Testing Order: 331505674
CustomerID: 32TETE30
CustomerPO:
ProjectID:

Attn: **Heidi Yavornicky**
Tetra Tech, Inc.
301 East Vanderbilt Way
Suite 450
San Bernardino, CA 92408

Phone: (909) 381-1674
Fax: (909) 889-1391
Received: 03/24/15 9:40 AM
Analysis Date: 3/28/2015
Collected: 3/19/2015

Project: **100-SBO-T34116**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
M-A-1 *331505674-0001*	Brownish-Black Vibration Dumper - South	Brown Fibrous Homogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
M-A-2 *331505674-0002*	Brownish-Black Vibration Dumper- Center	Brown Fibrous Homogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
M-A-3 *331505674-0003*	Brownish-Black Vibration Dumper- North	Brown Fibrous Homogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
M-B-1 *331505674-0004*	Concrete Deck- South	Gray/Beige Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
M-B-2 *331505674-0005*	Concrete Deck- Center	Gray/Beige Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
M-B-3 *331505674-0006*	Concrete Deck- North	Gray/Beige Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
D-A-1 *331505674-0007*	Concrete Form Wrap- East	Brown Fibrous Homogeneous	95%	Cellulose	5%	Non-fibrous (other)	**None Detected**
D-A-2 *331505674-0008*	Concrete Form Wrap- Center	Brown Fibrous Homogeneous	95%	Cellulose	5%	Non-fibrous (other)	**None Detected**

Analyst(s)

Emily Daos (19)

Michael DeCavallas, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by LA Testing Garden Grove, CA NVLAP Lab Code 101384-0, CA ELAP 1406

Initial report from 03/28/2015 13:52:51

LA Testing
11652 Knott Street Unit F5, Garden Grove, CA 92841
Phone/Fax: (714) 828-4999 / (714) 828-4944
http://www.LATesting.com gardengrovelab@latesting.com

LA Testing Order: 331505674
CustomerID: 32TETE30
CustomerPO:
ProjectID:

Attn: **Heidi Yavornicky**
Tetra Tech, Inc.
301 East Vanderbilt Way
Suite 450
San Bernardino, CA 92408

Phone: (909) 381-1674
Fax: (909) 889-1391
Received: 03/24/15 9:40 AM
Analysis Date: 3/28/2015
Collected: 3/19/2015

Project: **100-SBO-T34116**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
D-A-3 *331505674-0009*	Concrete Form Wrap- West	Brown Fibrous Homogeneous	95%	Cellulose	5%	Non-fibrous (other)	**None Detected**
D-B-1 *331505674-0010*	Brownish- Black Vibration Dumper- East	Brown Fibrous Homogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
D-B-2 *331505674-0011*	Brownish- Black Vibration Dumper- Center	Brown Fibrous Homogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
D-B-3 *331505674-0012*	Brownish -Black Vibration Dumper- West	Brown Fibrous Homogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
L-A-1 *331505674-0013*	Brownish- Black Vibration Danger- West	Brown Fibrous Homogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
L-A-2 *331505674-0014*	Brownish- Black Vibration Danger - Center	Brown Fibrous Homogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
L-A-3 *331505674-0015*	Brownish- Black Vibration Danger- East	Brown Fibrous Homogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
L-B-1 *331505674-0016*	Concrete Form Wrap- West	Brown Fibrous Homogeneous	95%	Cellulose	5%	Non-fibrous (other)	**None Detected**

Analyst(s)
Emily Daos (19)

Michael DeCavallas, Laboratory Manager
or other approved signatory

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Samples analyzed by LA Testing Garden Grove, CA NVLAP Lab Code 101384-0, CA ELAP 1406

Initial report from 03/28/2015 13:52:51

LA Testing
11652 Knott Street Unit F5, Garden Grove, CA 92841
Phone/Fax: (714) 828-4999 / (714) 828-4944
http://www.LATesting.com gardengrovelab@latesting.com

LA Testing Order: 331505674
CustomerID: 32TETE30
CustomerPO:
ProjectID:

Attn: **Heidi Yavornicky**
Tetra Tech, Inc.
301 East Vanderbilt Way
Suite 450
San Bernardino, CA 92408

Phone: (909) 381-1674
Fax: (909) 889-1391
Received: 03/24/15 9:40 AM
Analysis Date: 3/28/2015
Collected: 3/19/2015

Project: **100-SBO-T34116**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
L-B-2 *331505674-0017*	Concrete Form Wrap- Center	Brown Fibrous Homogeneous	95%	Cellulose	5%	Non-fibrous (other)	**None Detected**
L-B-3-Concrete Form Wrap *331505674-0018*	Concrete Form Wrap- East	Brown Fibrous Homogeneous	95%	Cellulose	5%	Non-fibrous (other)	**None Detected**
L-B-3-Concrete *331505674-0018A*	Concrete Form Wrap- East	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

Emily Daos (19)

Michael DeCavallas, Laboratory Manager
or other approved signatory

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Samples analyzed by LA Testing Garden Grove, CA NVLAP Lab Code 101384-0, CA ELAP 1406

Initial report from 03/28/2015 13:52:51

OrderID: 331505674

LATesting
11652 Knott Avenue, Unit F5

Garden Grove, CA 92841
PHONE: (714) 828-4999
FAX: (714) 828-4944

Asbestos Chain of Custody

EMSL Order Number (*Lab Use Only*):

-331505674

Company : Tetra Tech	**EMSL-Bill to:** ☑ Different ☐ Same If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 301 E. Vanderbilt Way Suite 450	
City: San Bernardino **State/Province:** CA	**Zip/Postal Code:** 92408 **Country:** United States
Report To (Name): Heidi Yavornicky	**Telephone #:** 909-382-5137
Email Address: heidi.yavornicky@tetratech.com	**Fax #:** 909-889-1391 **Purchase Order:** T34116
Project Name/Number: 100-SBO-T34116	**Please Provide Results:** ☐ FAX ☑ E-mail ☐ Mail
U.S. State Samples Taken: CA	**Connecticut Samples:** ☐ Commercial ☐ Residential

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ■ 1 Week ☐ 2 Week

**For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air ☐ Check if samples are from NY
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ■ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ **4-4.5hr TAT (AHERA only)**
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ TEM Qual. via Filtration Technique
- ☐ TEM Qual. via Drop-Mount Technique

Other:
- ☐

☒ **Check For Positive Stop – Clearly Identify Homogenous Group** **Filter Pore Size (Air Samples):** ☐ 0.8µm ☐ 0.45µm

Samplers Name: Heidi Yavornicky **Samplers Signature:** [signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
M-A-1	Brownish-Black Vibration Damper - South	M-A	3/19/15
M-A-2	" - Center	↓	
M-A-3	" - North	↓	
M-B-1	Concrete deck - South	M-B	
M-B-2	" - Center	↓	
M-B-3	" - North	↓	
D-A-1	Concrete form wrap - East	D-A	
D-A-2	" - Center	↓	

Client Sample # (s): M-A-1 - L-B-3 **Total # of Samples:** 18

Relinquished (Client): [signature] **Date:** 3/20/15 **Time:** via FedEx

Received (Lab): [signature] (fx) **Date:** 3/24/15 **Time:** 9:40

Comments/Special Instructions:
Please email results attn: heidi.yavornicky@tetratech.com
BillTo: Accounts Payable, 301 E. Vanderbuilt Way, Suite 450, San Bernardino, CA, 92408, United States
Attention: Heidi Yavornicky Phone: 909-382-5139 Email: heidi.yavornicky@tetratech.com Purchase Order: 100-SBO-T34116

OrderID: 331505674

LATesting
11652 Knott Avenue, Unit F5

Garden Grove, CA 92841
PHONE: (714) 828-4999
FAX: (714) 828-4944

Asbestos Chain of Custody

EMSL Order Number (*Lab Use Only*):

-331505674

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
D-A-3	Concrete form wrap - West	D-A	3/19/15
D-B-1	Brownish-Black vibration Damper - East	D-B	
D-B-2	" - Center		
D-B-3	" - West		
L-A-1	Brownish-Black vibration damper - West	L-A	
L-A-2	" - Center		
L-A-3	" - East		
L-B-1	Concrete form wrap - West	L-B	
L-B-2	" - Center		
L-B-3	" - East		

***Comments/Special Instructions:**

Please email results attn: heidi.yavornicky@tetratech.com
BillTo: Accounts Payable, 301 E. Vanderbuilt Way, Suite 450, San Bernardino, CA, 92408, United States
Attention: Heidi Yavornicky Phone: 909-382-5139 Email: heidi.yavornicky@tetratech.com Purchase Order: 100-SBO-T34116

Page 2 of 2 pages

APPENDIX B Lead-Based Paint XRF Logs

Lead-based Paint XRF Log

Date: March 19, 2015

Tetra Tech Project No.: 34116

Sampling Technician(s): Heidi Yavornicky

Project Name/Location: Lanzit Bridge

Shot No.:	Unit/Site:	Room Tested:	Wall: (N, S, E, W)	Color:	Component:	Substrate:	Quantity:	Paint Condition:	Result:	Neg/ Pos:
83	Detector Calibration	No reading								
84	Detector Calibration	No reading								
85	Calibration Check	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.1	N/A
86	Calibration Check	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.9	N/A
87	Calibration Check	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.1	N/A
88	Guard Rail	South Rail	West Portion	White	Guard Rail	Metal	2 ea; 190 lf total	Peeling	0.03	Neg
89	Guard Rail	South Rail	Center Portion	White	Guard Rail	Metal	2 ea; 190 lf total	Peeling	0.02	Neg
90	Guard Rail	South Rail	East Portion	White	Guard Rail	Metal	2 ea; 190 lf total	Peeling	**14.4**	**Pos**
91	Guard Rail	North Rail	East Portion	White	Guard Rail	Metal	2 ea; 190 lf total	Peeling	0.03	Neg
92	Guard Rail	North Rail	West Portion	White	Guard Rail	Metal	2 ea; 190 lf total	Peeling	0.09	Neg
93	Guard Rail	North Rail	West Portion	White	Guard Rail	Wood	2 ea; 190 lf total	Peeling	0.25	Neg

*N/A = Not Applicable; ea = each, lf = linear feet; Neg = Negative; **Pos** = **Positive**

Tetra Tech, Inc.
301 East Vanderbilt Way, Suite 450, San Bernardino, CA 92408-3559
Tel 909.381.1674 Fax 909.889.1391 www.tetratech.com

Lead-based Paint XRF Log

Date: March 19, 2015

Tetra Tech Project No.: 34116

Sampling Technician(s): Heidi Yavornicky

Project Name/Location: Lanzit Bridge

Shot No.:	Unit/Site:	Room Tested:	Wall: (N, S, E, W)	Color:	Component:	Substrate:	Quantity:	Paint Condition:	Result:	Neg/ Pos:
94	Guard Rail	North Rail	Center Portion	White	Guard Rail	Wood	2 ea; 190 lf total	Peeling	0.01	Neg
95	Guard Rail	North Rail	East Portion	White	Guard Rail	Wood	2 ea; 190 lf total	Peeling	0.25	Neg
96	Guard Rail	South Rail	East Portion	White	Guard Rail	Wood	2 ea; 190 lf total	Peeling	0.00	Neg
97	Guard Rail	South Rail	West Portion	White	Guard Rail	Wood	2 ea; 190 lf total	Peeling	0.5	Neg
98	Center Yellow-stripe	N/A	West Portion	Yellow	Road	Asphalt	95 lf total	Intact	0.00	Neg
99	Center Yellow-stripe	N/A	Center Portion	Yellow	Road	Asphalt	95 lf total	Intact	0.00	Neg
100	Center Yellow-stripe	N/A	East Portion	Yellow	Road	Asphalt	95 lf total	Intact	0.00	Neg
101	Center Black-stripe	N/A	East Portion	Black	Road	Asphalt	95 lf total	Intact	**1.9**	**Pos**
102	Center Black-stripe	N/A	East Portion	Black	Road	Asphalt	95 lf total	Intact	**1.7**	**Pos**
103	Center Black-stripe	N/A	Center Portion	Black	Road	Asphalt	95 lf total	Intact	0.00	Neg
104	Miss-read; no sample result									

*N/A = Not Applicable; ea = each, lf = linear feet; Neg = Negative; **Pos** = **Positive**

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Tel 909.381.1674 Fax 909.889.1391 www.tetratech.com

Lead-based Paint XRF Log

Date: March 19, 2015

Tetra Tech Project No.: 34116

Sampling Technician(s): Heidi Yavornicky

Project Name/Location: Lanzit Bridge

Shot No.:	Unit/Site:	Room Tested:	Wall: (N, S, E, W)	Color:	Component:	Substrate:	Quantity:	Paint Condition:	Result:	Neg/ Pos:
105	Center Black-stripe	N/A	West Portion	Black	Road	Asphalt	95 lf total	Intact	0.00	Neg
106	Side White-stripe	South Side	West Portion	White	Road	Asphalt	190 lf total	Intact	0.00	Neg
107	Side White-stripe	South Side	East Portion	White	Road	Asphalt	190 lf total	Intact	0.00	Neg
108	Side White-stripe	South Side	Center Portion	White	Road	Asphalt	190 lf total	Intact	0.00	Neg
109	Guard Rail Beam	North Side	East Portion	White	Support Guard Rail Beam	Wood	32 ea; 160 lf	Peeling	0.04	Neg
110	Guard Rail Beam	North Side	Center Portion	White	Support Guard Rail Beam	Wood	32 ea; 160 lf	Peeling	0.11	Neg
111	Guard Rail Beam	North Side	West Portion	White	Support Guard Rail Beam	Wood	32 ea; 160 lf	Peeling	0.00	Neg
112	Guard Rail Beam	South Side	West Portion	White	Support Guard Rail Beam	Wood	32 ea; 160 lf	Peeling	0.24	Neg
113	Guard Rail Beam	South Side	East Portion	White	Support Guard Rail Beam	Wood	32 ea; 160 lf	Peeling	0.24	Neg
114	Guard Rail Beam	North Side	West Portion	White	Lower Guard Rail Beam	Wood	190 lf total	Peeling	0.8	Neg
115	Guard Rail Beam	North Side	Center Portion	White	Lower Guard Rail Beam	Wood	190 lf total	Peeling	**3.5**	**Pos**

*N/A = Not Applicable; ea = each, lf = linear feet; Neg = Negative; **Pos** = **Positive**

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Lead-based Paint XRF Log

Date: March 19, 2015

Tetra Tech Project No.: 34116

Sampling Technician(s): Heidi Yavornicky

Project Name/Location: Lanzit Bridge

Shot No.:	Unit/Site:	Room Tested:	Wall: (N, S, E, W)	Color:	Component:	Substrate:	Quantity:	Paint Condition:	Result:	Neg/ Pos:
116	Guard Rail Beam	North Side	East Portion	White	Lower Guard Rail Beam	Wood	190 lf total	Peeling	0.21	Neg
117	Guard Rail Beam	South Side	East Portion	White	Lower Guard Rail Beam	Wood	190 lf total	Peeling	**4.5**	**Pos**
118	Guard Rail Beam	South Side	West Portion	White	Lower Guard Rail Beam	Wood	190 lf total	Peeling	0.23	Neg
119	Inner Support Beam	South Side	West Portion	White	Guard Rail; Inner Support Beam	Wood	32 ea; 64 lf	Peeling	**2.2**	**Pos**
120	Inner Support Beam	South Side	Center Portion	White	Guard Rail; Inner Support Beam	Wood	32 ea; 64 lf	Peeling	**2.0**	**Pos**
121	Inner Support Beam	South Side	East Portion	White	Guard Rail; Inner Support Beam	Wood	32 ea; 64 lf	Peeling	**2.7**	**Pos**
122	Inner Support Beam	North Side	East Portion	White	Guard Rail; Inner Support Beam	Wood	32 ea; 64 lf	Peeling	0.26	Neg
123	Inner Support Beam	North Side	West Portion	White	Guard Rail; Inner Support Beam	Wood	32 ea; 64 lf	Peeling	**1.8**	**Pos**
124	Sign	N/A	N/A	White	Sign; painted under bridge	Wood	3 square feet total	Intact	**3.6**	**Pos**
125	Sign	N/A	N/A	White	Sign; painted under bridge	Wood	3 square feet total	Intact	**7.3**	**Pos**
126	Sign	N/A	N/A	White	Sign; painted under bridge	Wood	3 square feet total	Intact	**6.0**	**Pos**

*N/A = Not Applicable; ea = each, lf = linear feet; Neg = Negative; **Pos** = **Positive**

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Tel 909.381.1674 Fax 909.889.1391 www.tetratech.com

Lead-based Paint XRF Log

Date: March 19, 2015

Tetra Tech Project No.: 34116

Sampling Technician(s): Heidi Yavornicky

Project Name/Location: Lanzit Bridge

Shot No.:	Unit/Site:	Room Tested:	Wall: (N, S, E, W)	Color:	Component:	Substrate:	Quantity:	Paint Condition:	Result:	Neg/ Pos:
127	Calibration Check	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.9	N/A
128	Calibration Check	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0	N/A
129	Calibration Check	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.9	N/A

*N/A = Not Applicable; ea = each, lf = linear feet; Neg = Negative; **Pos** = **Positive**

Tetra Tech, Inc.
301 East Vanderbilt Way, Suite 450, San Bernardino, CA 92408-3559
Tel 909.381.1674 Fax 909.889.1391 www.tetratech.com

APPENDIX C Consultant and Laboratory Certifications

STATE OF CALIFORNIA Edmund G. Brown, Jr. *Governor*

DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Occupational Safety and Health
Asbestos Unit
2424 Arden Way, Suite 495
Sacramento, CA 95825-2417
(916) 574-2993 Office (916) 483-0572 Fax
http://www.dir.ca.gov/dirdatabases.html actu@dir.ca.gov

801074319T **311**

January 07, 2015

Heidi L Yavornicky

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. **To maintain your certification, you must abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

Please contact our office at the above address, fax number or email; of any changes in your contact/mailing information within 15 days of the change.

Sincerely,

Jeff Ferrell
Senior Safety Engineer

Attachment: Certification Card

cc: File

Renewal – Card Attached (Revised 10/24/2012)

State of California Department of Public Health

Lead-Related Construction Certificate

Certificate Type

Expiration Date

Sampling Technician 10/23/2015

269894

Heidi L. Yavornicky

ID #: 19759

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

LA Testing – Garden Grove

11652 Knott Ave Unit F5, Garden Grove, CA 92841

Laboratory ID: 101650

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	**INDUSTRIAL HYGIENE**	Accreditation Expires: 03/01/2016
✓	**ENVIRONMENTAL LEAD**	Accreditation Expires: 03/01/2016
✓	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: 03/01/2016
☐	**FOOD**	Accreditation Expires:
☐	**UNIQUE SCOPES**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Gerald R Schultz

Gerald Schultz, CIH
Chairperson, Analytical Accreditation Board

Cheryl O. Morton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 14: 03/26/2014

Date Issued: 04/30/2014

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

LA Testing – Garden Grove
11652 Knott Ave Unit F5, Garden Grove, CA 92841

Laboratory ID: 101650
Issue Date: 04/30/2014

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air analysis is not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 08/23/1994

Field of Testing (FoT)	Method	Method Description *(for internal methods only)*
Paint	EPA SW-846 3050B	
	EPA SW-846 7000B	
Soil	EPA SW-846 3050B	
	EPA SW-846 7000B	
Settled Dust by Wipe	EPA SW-846 3050B	
	EPA SW-846 7000B	
Airborne Dust	NIOSH 7082	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL LABORATORY ACCREDITATION

Is hereby granted to

LA Testing

11652 Knott Ave., Unit F5

Garden Grove, CA 92841

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **1406**

Expiration Date: **12/31/2016**

Effective Date: **1/1/2015**

Richmond, California
subject to forfeiture or revocation

for Christine Sotelo, Chief
Environmental Laboratory Accreditation Program

California State
Environmental Laboratory Accreditation Program

EDMUND G. BROWN JR.
Governor

December 19, 2014

Minh-Nguyet Hong
LA Testing
11652 Knott Ave., Unit F5
Garden Grove, CA 92841

Dear Minh-Nguyet Hong: Certificate No. 1406

This is to advise you that the laboratory named above continues to be certified as an environmental testing laboratory pursuant to the provisions of the Health and Safety Code (HSC), Division 101, Part 1, Chapter 4, Section 100825, et seq. Certification for all currently certified Fields of Testing that the laboratory has applied for renewal shall remain in effect until **12/31/2016** unless it is revoked.

Please note that the renewal application for certification is subject to an on-site process, and the continued use of this certificate is contingent upon:

- *** successful completion of the on-site process;**
- *** acceptable performance in the required proficiency testing (PT) studies;**
- *** timely payment of all fees, including an annual fee due before December 31, 2015;**
- *** compliance with Environmental Laboratory Accreditation Program (ELAP); statutes (HSC, Section 100825, et seq.) and Regulations (California Code of Regulations (CCR),Title 22, Division 4, Chapter 19).**

An updated certificate of the "Fields of Testing" will be issued to the laboratory upon successful completion of the on-site process.

The application for the renewal of this certificate must be received before the expiration date to remain in force according to the HSC100845(a).

Please note that the laboratory is required to notify ELAP of any major changes in the laboratory such as the transfer of ownership, change of laboratory director, change in location, or structural alterations which may affect adversely the quality of analyses (HSC, Section 100845(b)(d)). Please include the above certificate number in all your correspondence with ELAP.

If you have any questions, please contact ELAP at (510) 620-3155.

Sincerely,

for Christine Sotelo, Chief
Environmental Laboratory Accreditation Program

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing

LA Testing
11652 Knott Ave., Unit F5
Garden Grove, CA 92841
Phone: (714) 828-4999

Certificate No: 1406
Renew Date: 12/31/2016

Field of Testing:	114 - Inorganic Chemistry of Hazardous Waste		
114.010	001	Antimony	EPA 6010B
114.010	002	Arsenic	EPA 6010B
114.010	003	Barium	EPA 6010B
114.010	004	Beryllium	EPA 6010B
114.010	005	Cadmium	EPA 6010B
114.010	006	Chromium	EPA 6010B
114.010	007	Cobalt	EPA 6010B
114.010	008	Copper	EPA 6010B
114.010	009	Lead	EPA 6010B
114.010	010	Molybdenum	EPA 6010B
114.010	011	Nickel	EPA 6010B
114.010	012	Selenium	EPA 6010B
114.010	013	Silver	EPA 6010B
114.010	014	Thallium	EPA 6010B
114.010	015	Vanadium	EPA 6010B
114.010	016	Zinc	EPA 6010B
114.130	001	Lead	EPA 7420
114.140	001	Mercury	EPA 7470A
114.141	001	Mercury	EPA 7471A
114.240	001	Corrosivity - pH Determination	EPA 9040B
114.241	001	Corrosivity - pH Determination	EPA 9045C
Field of Testing:	115 - Extraction Test of Hazardous Waste		
115.021	001	TCLP Inorganics	EPA 1311
115.030	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appendix II
Field of Testing:	120 - Physical Properties of Hazardous Waste		
120.070	001	Corrosivity - pH Determination	EPA 9040B
120.080	001	Corrosivity - pH Determination	EPA 9045C
Field of Testing:	121 - Bulk Asbestos Analysis of Hazardous Waste		
121.010	001	Bulk Asbestos	EPA 600/M4-82-020

As of 1/14/2015 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

LA Testing-Garden Grove
11652 Knott Avenue, Unit F5
Garden Grove, CA 92841
Mr. Michael DeCavallas
Phone: 714-828-4999 Fax: 714-828-4944
E-Mail: mdecavallas@latesting.com
URL: http://www.latesting.com

BULK ASBESTOS FIBER ANALYSIS (PLM) **NVLAP LAB CODE 101384-0**

NVLAP Code	*Designation / Description*
18/A01	EPA 600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

2014-07-01 through 2015-06-30
Effective dates

For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101384-0

LA Testing-Garden Grove

Garden Grove, CA

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2014-07-01 through 2015-06-30

Effective dates

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

NVLAP® **National Voluntary Laboratory Accreditation Program**

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

LA Testing-Garden Grove
11652 Knott Avenue, Unit F5
Garden Grove, CA 92841
Mr. Michael DeCavallas
Phone: 714-828-4999 Fax: 714-828-4944
E-Mail: mdecavallas@latesting.com
URL: http://www.latesting.com

AIRBORNE ASBESTOS FIBER ANALYSIS (TEM) **NVLAP LAB CODE 101384-0**

NVLAP Code	*Designation / Description*
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

2014-07-01 through 2015-06-30
Effective dates

For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101384-0

LA Testing-Garden Grove

Garden Grove, CA

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

AIRBORNE ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2014-07-01 through 2015-06-30

Effective dates

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

AAA LEAD Consultants and Inspections, Inc.
Consulting - Inspections - Risk Assessment - Project Monitoring
STATE CERTIFIED / INSURED

AMBOY BRIDGE PROJECT
FOR
CUSHMAN CONTRACTING CORPORATION
P.O. BOX 147
GOLETA, CA 93116

PERFORMED AT
DOLA (BRIDGE 81) AND LANZIT (BRIDGE 82)
AMBOY, CA 92304

Signed _____ **Date: September 9, 2017**
Michael Cohn
Project Inspector DPH#437

1307 West Sixth Street #134, Corona, Ca. 92882 Ph 951-582-9071 Fax 951-582-9073
e-mail aaalead@sbcglobal.net http://aaalead.com

SAMPLING REPORT

REPORT NUMBER:	AAA #083117
REPORT FOR:	Charlie Nelson C/O: Cushman Contracting Corporation 5354 Overpass Road Goleta, Ca 93111
PERFORMED AT:	Amboy
LOCATIONS:	Dola Bridge #81 and Lanzit Bridge #82
PURPOSE:	Clearance Soil Sampling for the Presence of Aerially Deposited Lead and Chromium

CLEARANCE SOIL SAMPLING REPORT FOR THE PRESENCE OF LEAD AND CHROMIUM AT THE DOLA AND LANZIT BRIDGE LOCATIONS IN AMBOY, CA 92304

1.0 INTRODUCTION

This report presents the results of AAA LEAD Consultants and Inspections, Inc. sampling of the soil at the Dola (#81) and Lanzit (#82) Bridges located in Amboy, Ca. The clearance soil sampling was performed on August 31, 2017. Six clearance soil samples were taken at each site. All samples were taken to Enviro-Chem, Inc. Laboratories for analysis of lead and chromium.

2.0 SCOPE OF WORK

Six core samples were taken at each bridge near the original sample collection performed prior to any bridge work. Each sample taken was identified at the site with a orange flag with the sample number labeled on each flag. Measurements were taken off the bridge and transferred to a drawing of the bridge depicting the location of each sample (see attached drawings). All samples locations were than photographed. The samples at each site were individually bagged and labeled for delivery to Enviro-Chem, Inc. Laboratories for analysis.

3.0 TESTING PROTOCOL

All samples collected were analyzed for Total Lead and Chromium by US EPA Method 6010B. The Total Threshold Limit Concentrations (TTLC) for lead is less than1,000ppm and less than 2,500ppm for Chromium. If a sample is less than 50ppm it is considered non-hazardous and cannot fail. No further testing is required. If results are greater than 50ppm but less than 1,000ppm for lead or 2,500ppm for chromium they move onto the STLC (Soluble Threshold Limit Concentration) test. If results are less than 5mg/L it is non hazardous, if the result is 5mg/L or greater it is hazardous waste and must move to the TCLP (Toxic Characteristic Leaching Procedure) analysis. If the result is less than 5mg/L the waste in non-RCRA hazardous waste, if the result is 5mg/L or more the waste is RCRA hazardous waste and must be treated.
When the TTLC result is 1,000ppm or greater for lead, or 2,500ppm or greater for chromium the STLC test is skipped and TCLP analysis performed.

5.0 SUMMARY OF RESULTS

Bridge 81 (Dola) results of the clearance soil samples were as follows:
None of the soil results were above 50ppm for lead or chromium. No further testing is required

Bridge 82 (Lanzit) results of the clearance soil samples were as follows:
None of the soil results were above 50ppm for lead or chromium. No further testing is required

Copies of actual laboratory analysis are enclosed in the next section of this report.

SAMPLES

The following pages contain the laboratory test results for all samples taken in and around the work area.

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: September 7, 2017

Mr. Michael Cohn
AAA Lead Consultants and Inspections, Inc.
1307 West Sixth Street #134
Corona, CA 92882
Tel(951)582-9071 E-Mail: Aaalead@sbcglobal.net

Project: **Clearance Amboy Bridges 81 & 82**
Lab I.D.: **170901-146 through -157**

Dear Mr. Cohn:

The **analytical results** for the soil samples, received by our lab on September 1, 2017, are attached. The samples were received chilled, intact and accompanying chain of custody record.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manager

Andy Wang
Laboratory Manager

Enviro – Chem, Inc.
1214 S. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AAA Lead Consultants and Inspections, Inc.
1307 West Sixth Street #134
Corona, CA 92882
Tel(951)582-9071 E-Mail: Aaalead@sbcglobal.net

PROJECT: Clearance Amboy Bridges 81 & 82

MATRIX: SOIL
DATE SAMPLED: 08/31/17
REPORT TO: MR. MICHAEL COHN

DATE RECEIVED: 09/01/17
DATE ANALYZED: 09/05/17
DATE REPORTED: 09/07/17

EPA 6010B FOR TTLC-CHROMIUM/LEAD
UNITS: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	CHROMIUM RESULT	DF	LEAD RESULT	DF
CS-001 #81	170901-146	7.36	1	3.04	1
CS-002 #81	170901-147	10.4	1	3.81	1
CS-003 #81	170901-148	10.5	1	3.37	1
CS-004 #81	170901-149	9.86	1	4.99	1
CS-005 #81	170901-150	11.9	1	3.54	1
CS-006 #81	170901-151	9.23	1	3.79	1
CS-007 #82	170901-152	14.2	1	9.45	1
CS-008 #82	170901-153	6.65	1	2.48	1
CS-009 #82	170901-154	10.2	1	6.55	1
CS-010 #82	170901-155	9.54	1	4.87	1
CS-011 #82	170901-156	11.3	1	8.32	1
CS-012 #82	170901-157	10.0	1	3.47	1
Method Blank	---	ND	1	ND	1
	PQL	0.50		0.50	

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = DF X PQL
ND = Non-Detected or below the Actual Detection Limit
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
TTLC Limit for Chromium = 2500 PPM
TTLC Limit for Lead = 1000 PPM
STLC Limit for Chromium = 560/5.0@ PPM
STLC Limit for Lead = 5 PPM
* = STLC analysis is recommended (if marked)
** = Additional Analysis required, please call to discuss (if marked)
*** = The concentration exceeds the TTLC Limit, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 9/5/2017

Unit : mg/Kg(ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Chromium(Cr)	170901-146	50.0	94	PASS	7.36	50.0	47.7	81%	46.8	79%	2%
Lead(Pb)	170901-146	50.0	105	PASS	3.04	50.0	42.4	79%	42.9	80%	1%
Nickel(Ni)	170901-146	50.0	104	PASS	3.42	50.0	42.8	79%	41.0	75%	5%

ANALYSIS DATE. : 9/5/2017

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	170824-60	0.108	99	PASS	0	0.125	0.128	102%	0.126	101%	2%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Chromium(Cr)	PASS	PASS	PASS	PASS
Lead(Pb)	PASS	PASS	PASS	PASS
Nickel(Ni)	PASS	PASS	PASS	PASS
Mercury (Hg)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel (909) 590-5905 Fax (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
0 1 Week (Standard) [circled]
Other:

Misc./PO#

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	Lead Method 6010B	Chromium Method 6010B	Lead STLC if required	Chromium STLC if required	Lead TCLP if required	Chromium TCLP	COMMENTS
CS-001 #81	170901-146	8/31/17		Soil	1 bg			✓	✓					
CS-002 #81	147	8/31/17		Soil	1 bg			✓	✓					
CS-003 #81	148	8/31/17		Soil	1 bg			✓	✓					
CS-004 #81	149	8/31/17		Soil	1 bg			✓	✓					
CS-005 #81	150	8/31/17		Soil	1 bg			✓	✓					
CS-006 #81	151	8/31/17		Soil	1 bg			✓	✓					
CS-007 #82	152	8/31/17		Soil	1 bg			✓	✓					
CS-008 #82	153	8/31/17		Soil	1 bg			✓	✓					
CS-009 #82	154	8/31/17		Soil	1 bg			✓	✓					
CS-010 #82	155	8/31/17		Soil	1 bg			✓	✓					
CS-011 #82	156	8/31/17		Soil	1 bg			✓	✓					
CS-012 #82	157	8/31/17		Soil	1 bg			✓	✓					

Company Name: AAA Lead Consultants and Inspections, Inc.
Address: 1307 West Sixth Street #134
City/State/Zip: Corona, Ca 92882

Project Contact: Michael Cohn
Tel: 951-582-9071
Fax: aaalead@sbcglobal.net

Sampler's Signature: [signature]
Project Name/ID: Clearance Amboy Bridges 81 & 82

Relinquished by	Received by	Date & Time
[signature]	[signature]	9/01/2017 1:36 PM

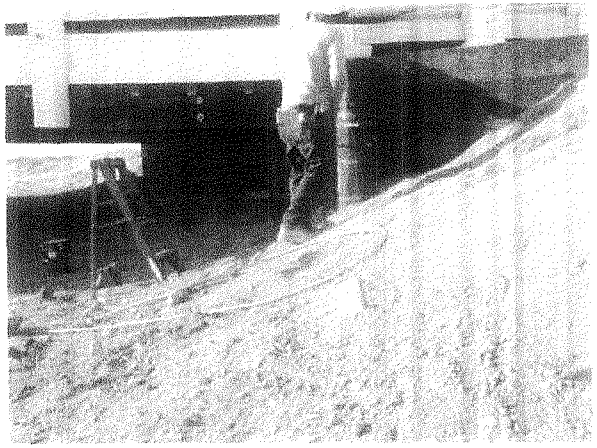
Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client O Store (30 Days)
O Other

CHAIN OF CUSTODY RECORD

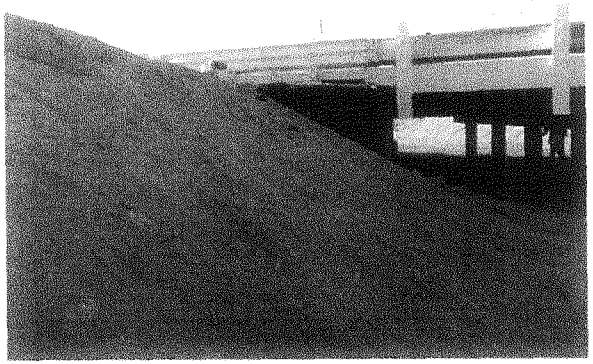
Date

WHITE WITH SAMPLE • YELLOW TO CLIENT

PHOTOS OF SAMPLE LOCATIONS
BRIDGE 81 DOLA AMBOY



Sample 1



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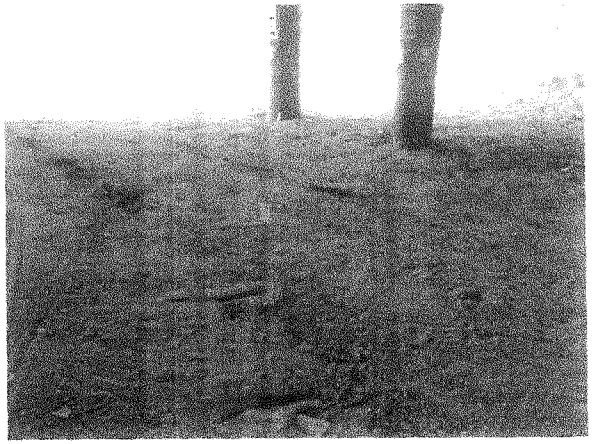
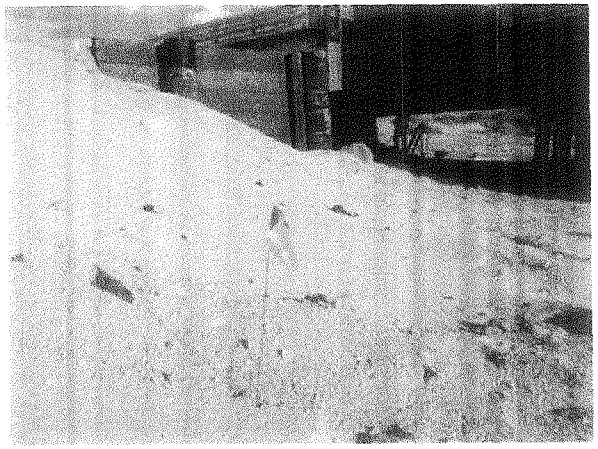


Sample 3



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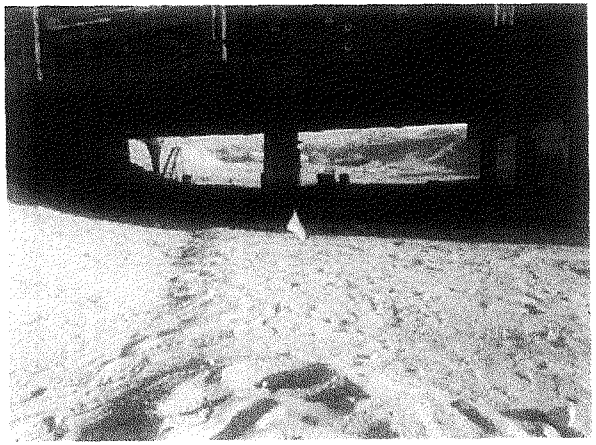
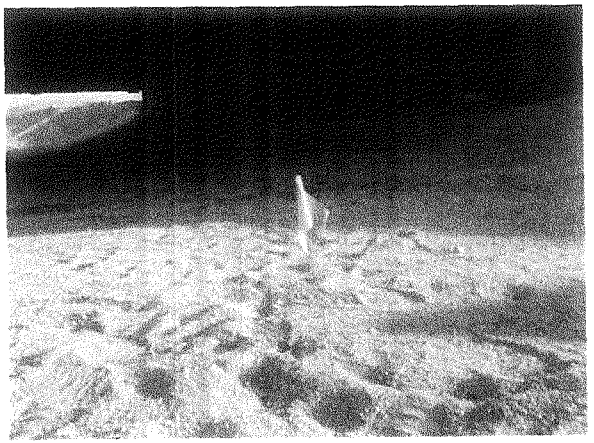
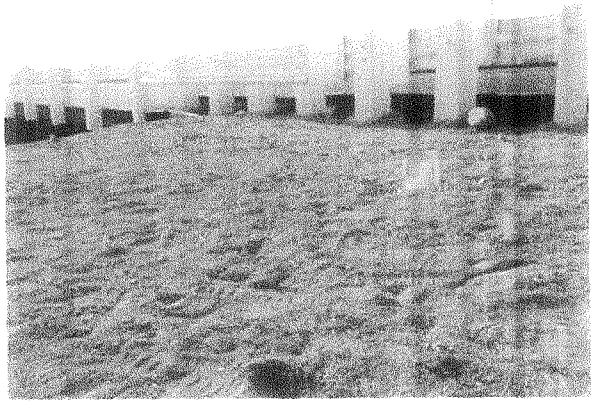


Sample 5

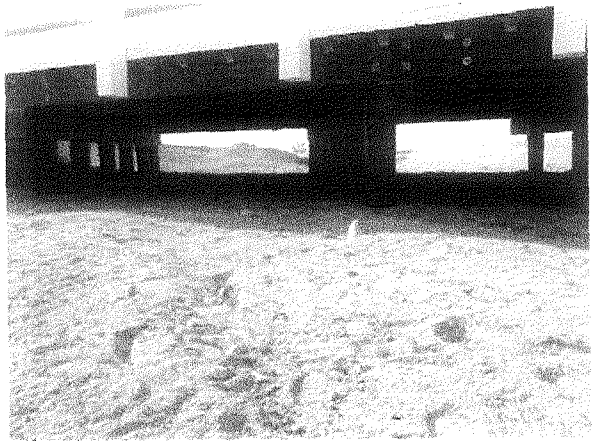


Sample 6

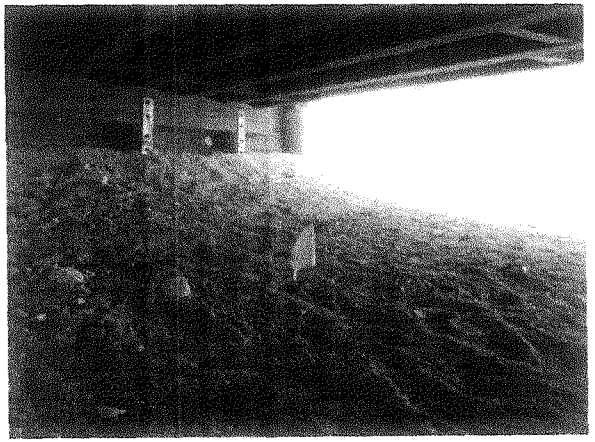
PHOTOS OF SAMPLE LOCATIONS
BRIDGE 82 LANZITAMBOY



Sample 7

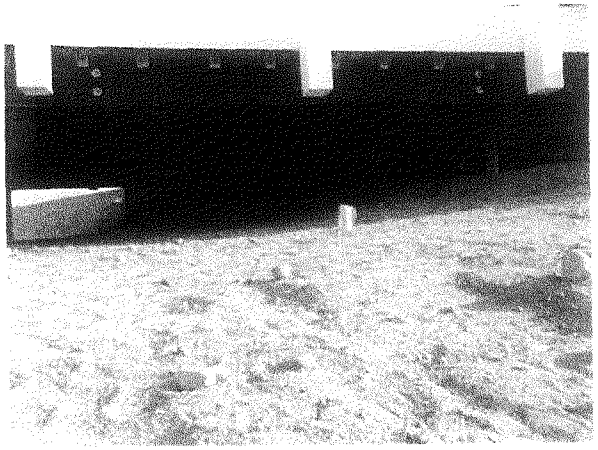


Sample 8

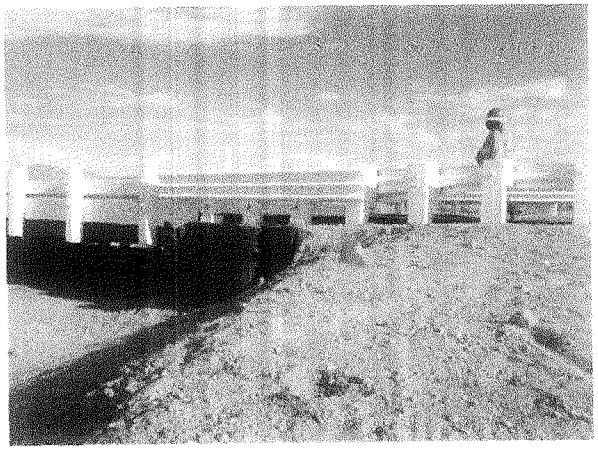


Sample 9

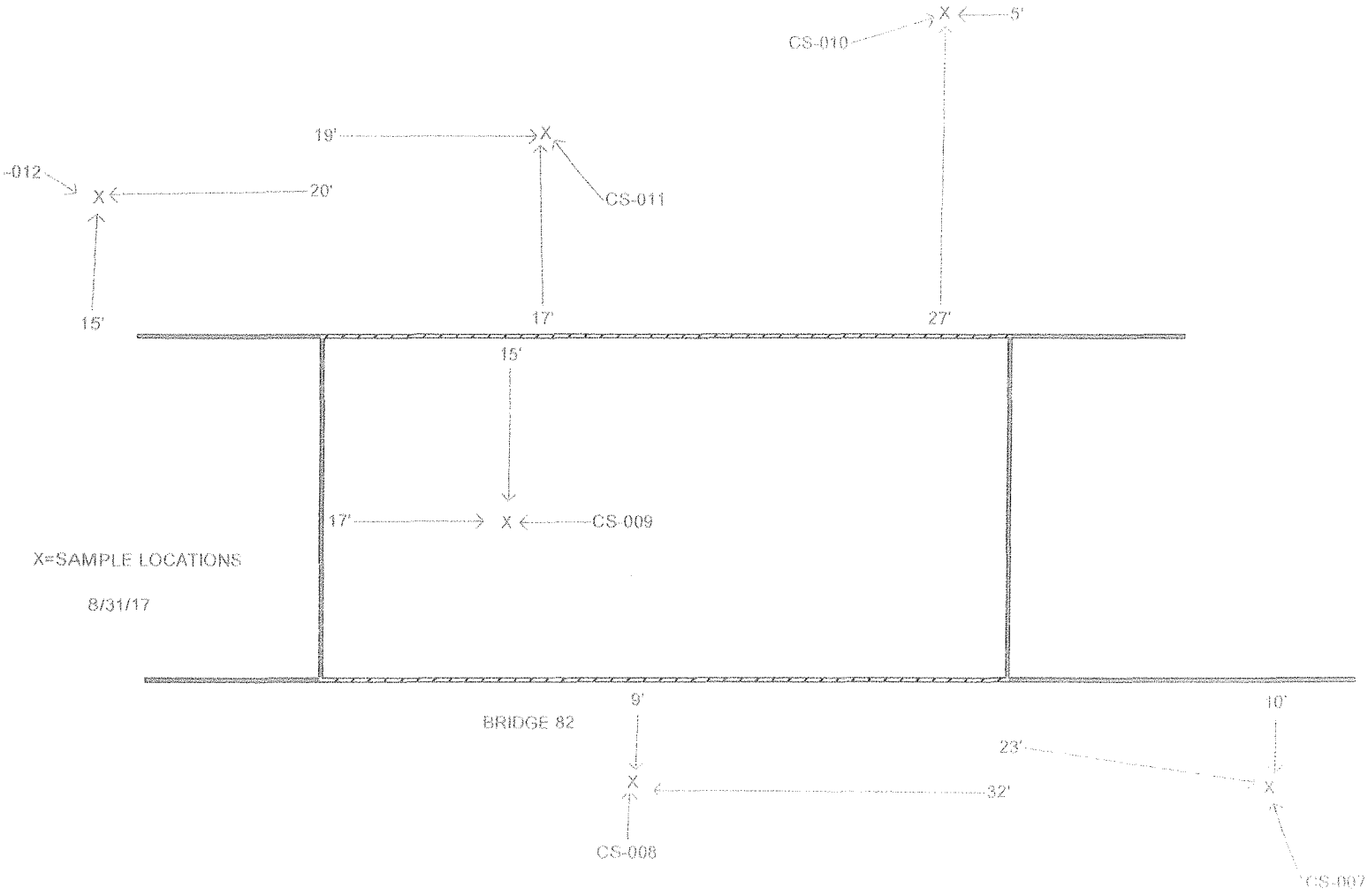
Sample 10



Sample 11



Sample 12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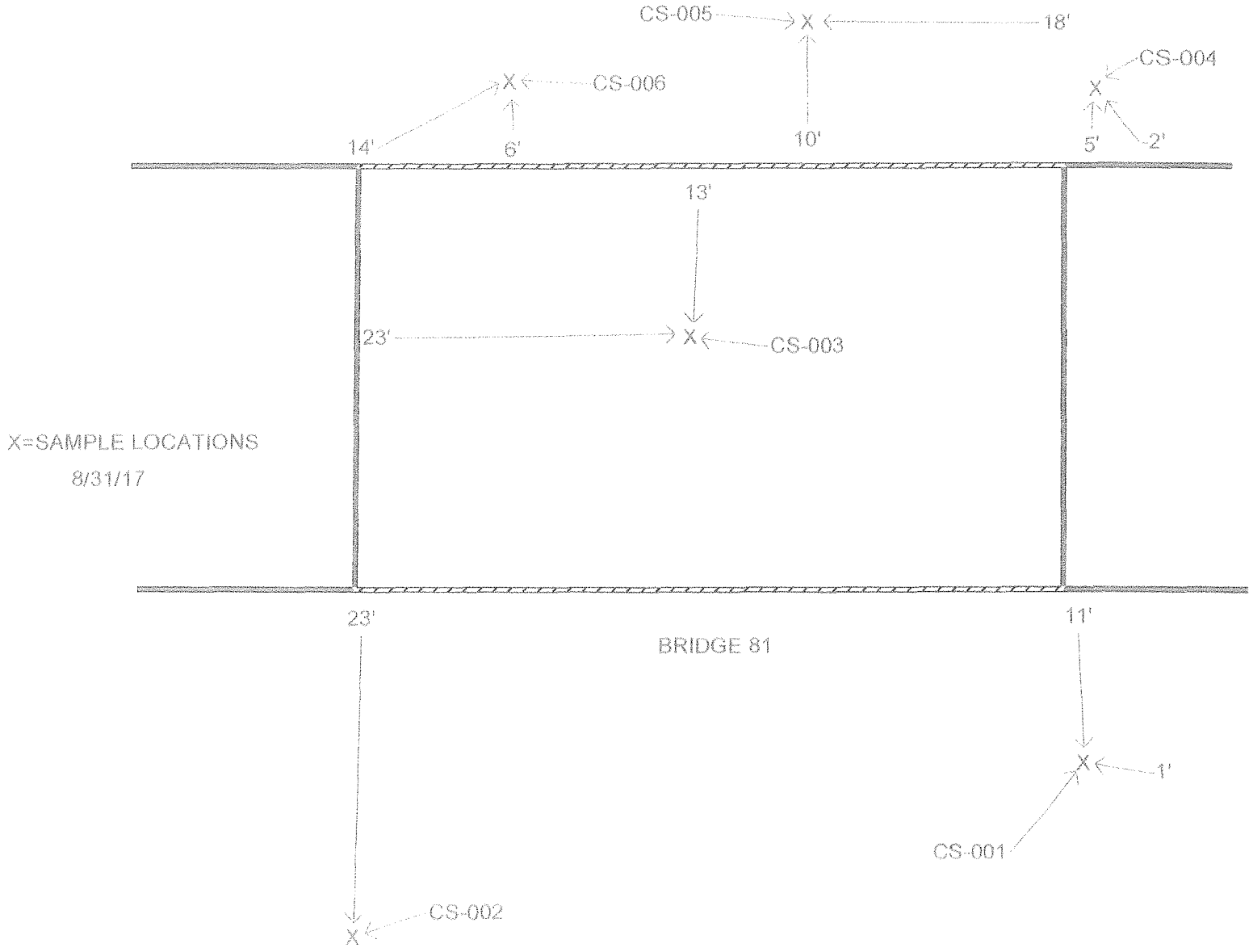
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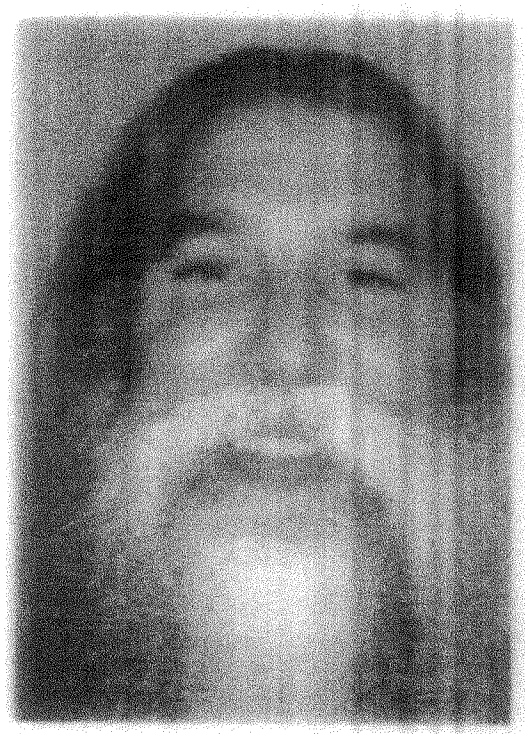
State of California Department of Public Health

Lead-Related Construction Certificate



Inspector/Assessor	05/27/2018
Supervisor	05/27/2018
Project Designer	05/27/2018
Project Monitor	05/27/2018

Michael P. Cohn

ID #: 437

APPENDIX D: Photo Log

Representative Photo 1. Lamego Ditch bridge, facing north.

Representative Photo 2. This photo was taken from the Lamego Ditch bridge, facing north. The NTH and yellow center stripe are in the foreground.

Representative Photo 3. View west of the Road Runner's Retreat restaurant (abandoned) south of the NTH.

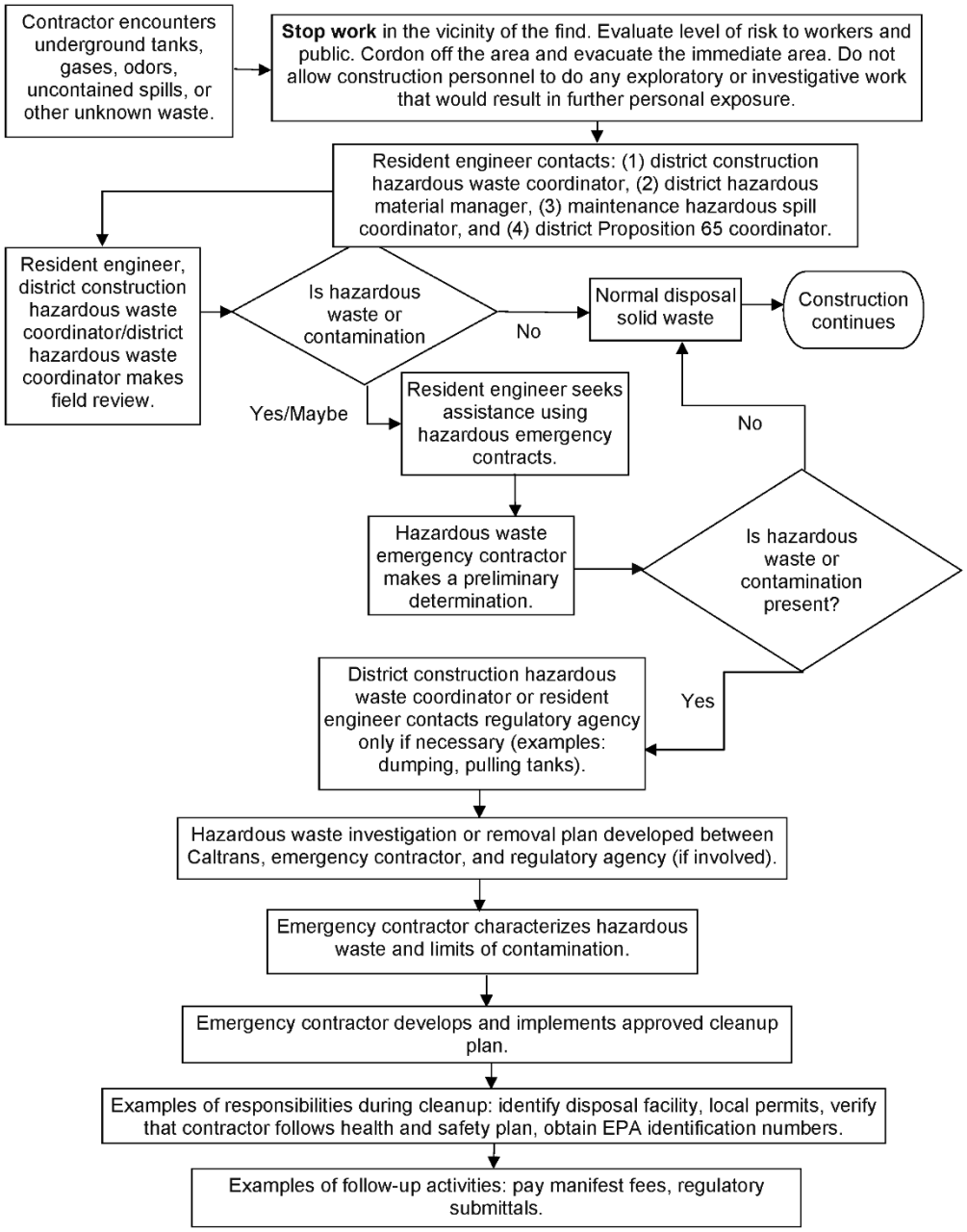
Representative Photo 4. View southwest from the Lamego Ditch south of the NTH.

Representative Photo 5. View east from south of the NTH.

Representative Photo 6. View east from north of the NTH.

APPENDIX E: Caltrans Hazardous Procedures for Construction

Figure 7-1.1. Unknown Hazards Procedure



Appendix D:
Paleontological Resources Evaluation

COMBINED PALEONTOLOGICAL IDENTIFICATION AND EVALUATION REPORT FOR THE NATIONAL TRAILS HIGHWAY LAMEGO BRIDGE PROJECT, NEAR CHAMBLESS, SAN BERNARDINO COUNTY, CALIFORNIA

CALTRANS BRIDGE NUMBER: 54C0289

SUBMITTED TO:
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS
825 E. THIRD STREET, SAN BERNARDINO, CA 92415

SUBMITTED BY:
KIM SCOTT, M.S., SAN BERNARDINO COUNTY QUALIFIED PRINCIPAL PALEONTOLOGIST

DECEMBER 2025

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EXECUTIVE SUMMARY

The purpose of this combined Paleontological Identification Report and Paleontological Evaluation Report (PIR-PER) is to assess the potential for impacting fossil resources during proposed work to replace County Bridge Number 85 Lamego Ditch with a concrete bridge on the National Trails Highway (NTH), also known as U.S. Route 66 between the communities of Amboy and Essex in unincorporated San Bernardino County (County). The County is the lead agency under California Environmental Quality Act (CEQA.)

The purpose of the Project is to replace a structurally deficient bridge in order to:

- Enhance safety on National Trails Highway by proving new vehicular crossings for 10 bridges;
- Provide a transportation facility consistent with County and California Department of Transportation (Caltrans) standards, as well as local and regional plans.

Grading within the existing channels around the bridges may be needed to ensure sufficient storm conveyance and drainage of the area. A maximum excavation of 25 feet below ground surface will be needed to install the abutment footings. No piles are anticipated for this bridge.

Three alluvial fan units are present within the study area, ranging from middle Pleistocene to modern and deposited less than 774,000 years ago.

No Quaternary paleontological localities are recorded in the project nor from Quaternary alluvial fans from a one mile radius of the project. However, over three dozen localities were present within a 5-mile radius and more than 100 localities were present in a 10-mile radius of the Project in Quaternary deposits.

Ashton Fowler of Cogstone performed field survey on on September 11, 2025. Based on the geology observed all sediments have a low potential to produce fossils. No fossils were encountered during the survey.

Alluvial fan sediments, particularly in the coarse-grained areas of the fan, typically do not yield fossils. Due to the arid nature of the region, the location of all bridges on alluvial fans, the lack of potential for burial, and observations during the field survey, all project are assigned a low sensitivity for paleontological resources.

No paleontological mitigation is recommended for this project and no further paleontological work is required. If unanticipated discoveries of paleontological resources occur during

construction, all work within 50 feet of the discovery should be halted until the find has been evaluated by a qualified paleontologist.

INTRODUCTION

PURPOSE OF STUDY

The purpose of this combined Paleontological Identification Report and Paleontological Evaluation Report (PIR-PER) is to assess the potential for impacting fossil resources during proposed work to replace proposes to replace County Bridge Number 85 Lamego Ditch with a concrete bridge on the National Trails Highway (NTH), also known as U.S. Route 66 (Project; Figures 1, 2, and 3). The Project is near the unincorporated community of Chambless in San Bernardino County. The San Bernardino County Department of Public Works (County) is the lead agency under California Environmental Quality Act (CEQA).

PROJECT DESCRIPTION

The existing timber bridge was constructed in the 1930s and span over the man-made Lamego Ditch, a "flash flood wash". The timber trestle bridge is composed of simply-supported timber stringer spans with a laminated timber deck supported on timber strutted abutments and bents consisting of timber piles. The bridge is approximately 28-feet wide with guardrails that do not meet current standards (Table 1).

Through the years, the bridge has been modified by various maintenance and repair work with the intent of maintaining public safety and prolonging the service life of the bridge. The proposed replacement will resolve existing bridge deficiencies.

Table 1. Project bridges to be replaced, bridge size, and location

Bridge Name	County Bridge Number	Caltrans Bridge Number	Location
Lamego Ditch	85	54C0289	4.3 miles east of Kelbaker Rd

California Department of Transportation (Caltrans)

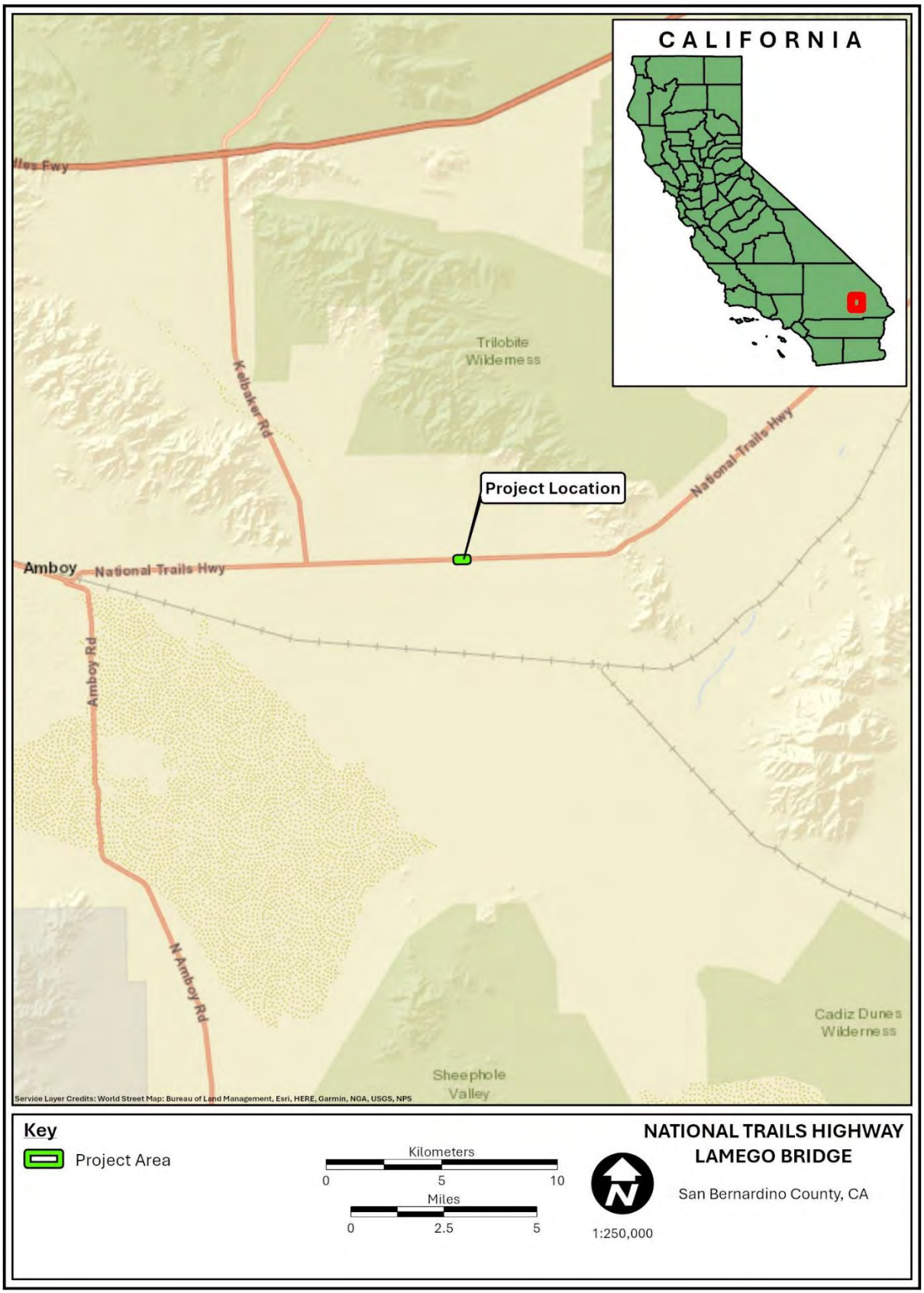


Figure 1. Project Vicinity Map

Figure 2. Project Aerial Map

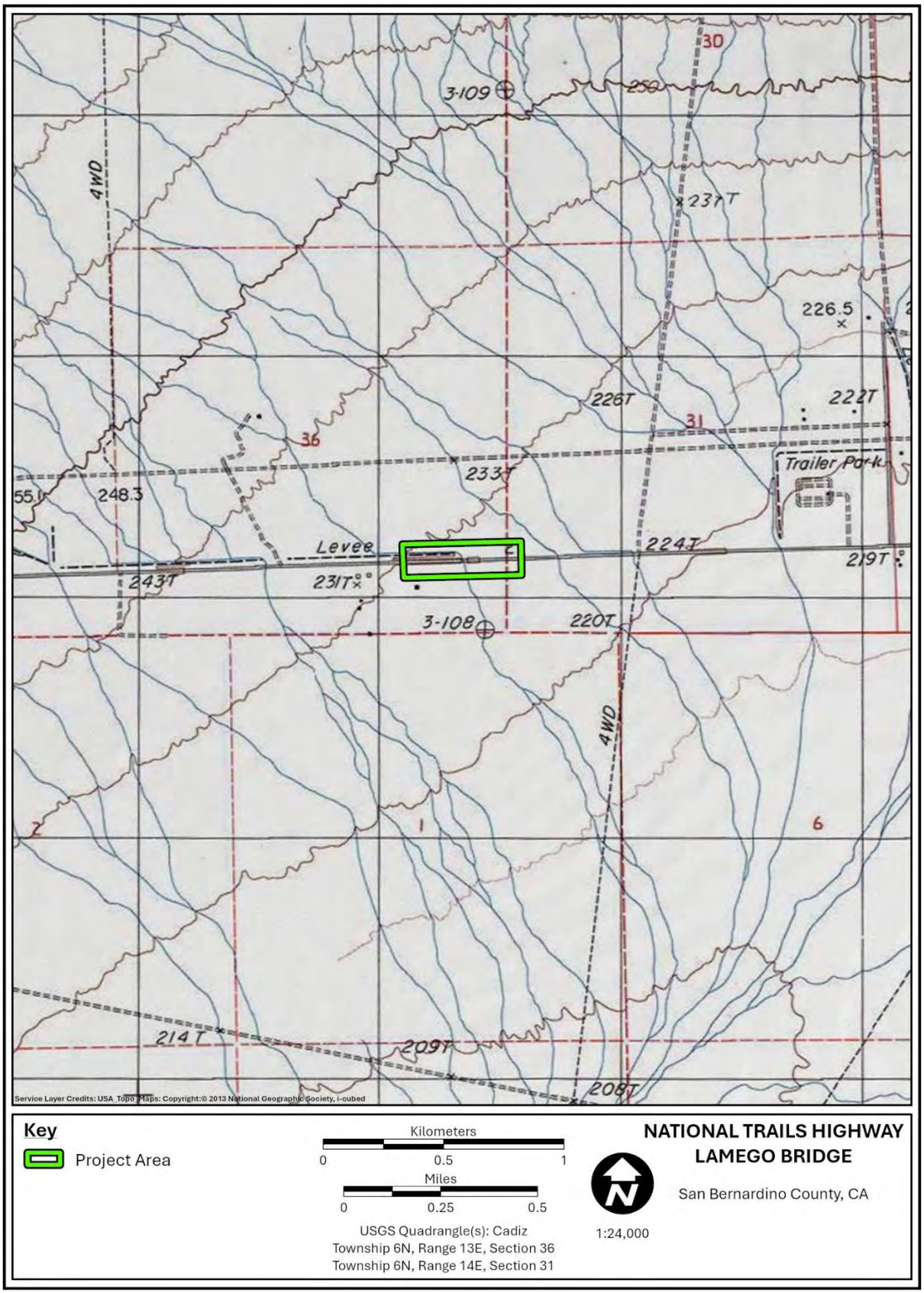


Figure 3. Project Topographic Map

The existing, two-lane bridge will be replaced with a concrete bridge designed to American Association of State Highway and Transportation Officials (AASHTO) standards for two-lane concrete bridges, guardrail, guardrail end treatments, and approaches. The existing soil is sandy and susceptible to scour, so pile extensions would be utilized at the piers and the abutment foundation would be designed for scour. Additionally, rock slope protection will also be utilized to prevent scour. The bridge barrier would be a concrete barrier Type 85 with bicycle railing painted white which is Manual for Assessing Safety Hardware (MASH) approved and best matches the original railing. The bridge length may be lengthened as needed to convey the storm flows. The replacement bridge would accommodate two 12-foot-wide lanes, two 3-foot-wide shoulders and two 2-foot-wide railings. The vertical profile of the bridge will remain close to the existing profile unless it is determined that additional vertical clearance is required to provide sufficient water conveyance beneath the bridge. It is anticipated that any such necessary changes in vertical profiles would be three feet or less, with the elevation gradually conforming to the existing roadway elevations.

The National Trails Highway is posted at a speed limit of 55 miles per hour. The alignment would remain unchanged; however, up to 800 feet of pavement improvements on either side of the bridge may be needed to conform to the existing roadway vertical profile. Grading within the existing channel around the bridge may be needed to ensure sufficient storm conveyance and drainage of the area.

A temporary, parallel road (also known as a “shoo-fly”) would be constructed at the bridge location to accommodate through-traffic during construction. This parallel road may require placement of a culvert with rock slope protection. Construction of the bridge replacement is expected to be completed in one season, limiting the time the detour would be in place to one season as well. Based on weather conditions and construction activities, it is possible that there could be intermittent closures of the temporary parallel road . The temporary parallel road, including any culvert or rock slope protection, would be removed once construction of the replacement bridge and roadway approaches is complete.

Permanent acquisition of right-of-way is not anticipated; however, temporary construction easements may be needed to accommodate construction of the temporary detour. There are existing utilities which may require relocation as part of this project. Existing utilities may include an underground fiber optics line, overhead electrical line, telecommunications lines, water lines, and gas lines. All utility relocations would be included within the defined limits of the Project area.

Typical equipment for roadway construction would include heavy construction earthmoving equipment, dump trucks and pavers. Typical bridge construction equipment would include cranes, pile drivers, drill rigs, excavators, concrete trucks, and concrete pumps.

In general, the equipment to be used includes:

- Excavator/Compact track skid steer is anticipated for temporary earthwork.
- Excavator/skid steer with hammer attachments is anticipated to demo the existing bridge.
- Waste hauling vehicles are anticipated to haul away concrete, spoils, and other construction debris.
- Excavator is anticipated for construction of pile caps and spread footing (open excavation)
- Drill rig is anticipated for construction of the pile extensions and cast-in-drill hole concrete piles at the abutments.
- Concrete mixer truck and concrete pump truck are anticipated to place concrete.
- Portable generators are anticipated to run small power tools.

PROJECT PURPOSE

The purpose of the Project is to replace a structurally deficient bridge in order to:

- Enhance safety on National Trails Highway by proving new vehicular crossings for 19 bridges;
- Provide a transportation facility consistent with County and Caltrans standards, as well as local and regional plans.

PROJECT NEED

Full replacement of the bridges is needed because the current structures do not meet structural design standards.

PROJECT STUDY AREA

This project is located in section 36 of Township 6 North and Range 13 East, and in section 31 of Township 6 North and Range 14 East of the Cadiz 7.5 minute USGS map within the San Bernardino Base Meridian (Figure 3).

Grading within the existing channels around the bridges may be needed to ensure sufficient storm conveyance and drainage of the area. A maximum excavation of 25 feet below ground surface will be needed to install the abutment footings. No piles are anticipated for this bridge.

PROJECT PERSONNEL

Cogstone Resource Management (Cogstone) conducted the paleontological resources studies described herein. A brief resume of the principal investigator is appended (Appendix A). Additional qualifications of key Cogstone staff are available at https://cogstone.com/key-staff/

- Kim Scott served as the Principal Paleontologist and prepared this report. Ms. Scott has an M.S. in Biology with an emphasis in paleontology from California State University (CSU), San Bernardino, a B.S. in Geology with an emphasis in paleontology from the University of California, Los Angeles (UCLA), and over 30 years of experience in California paleontology and geology. She is also a San Bernardino County Qualified Paleontologist.
- Eric Scott provided QA/QC for this report and served as task manager. Mr. Scott has an M.A. in Anthropology with an emphasis in biological paleoanthropology from UCLA and more than 40 years of experience in California paleontology. He is also a San Bernardino County Qualified Paleontologist.
- Logan Freeberg prepared the geographic information system (GIS) maps used throughout this report. Mr. Freeberg has a B.A. in Anthropology from University of California, Santa Barbara, and a certificate in GIS from CSU Fullerton, as well as 22 years of experience in California archaeology.
- Ashton Fowler performed the survey. Mr. Fowler has a B.S. in Geology from CSU San Bernardino and 2 years experience in California Paleontology.
- Debbie Webster provided technical editing. Ms. Webster has more than 23 years of experience in technical writing.

REGULATORY ENVIRONMENT

STATE LAWS AND REGULATIONS

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA includes paleontological, archaeological, and historic resources as integral features of the environment. CEQA states that: It is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required are intended to assist public agencies in systematically identifying both the significant effects of proposed project and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.

CEQA declares that it is state policy to: "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered.

If paleontological resources are identified as being within the proposed project study 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.

PUBLIC RESOURCES CODE

Section 5097.5: No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands (lands under state, county, city, district or public authority jurisdiction, or the jurisdiction of a public corporation), except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

CALIFORNIA ADMINISTRATIVE CODE, TITLE 14, SECTION 4307

This section states that “No person shall remove, injure, deface or destroy any object of paleontological, archeological or historical interest or value.”

SAN BERNARDINO COUNTY LAWS AND REGULATIONS

Paleontological resources are protected by county ordinances. The County of San Bernardino (Development Code §82.20.040) defines a qualified paleontologist as meeting the following criteria:

> Education: An advanced degree (Masters or higher) in geology, paleontology, biology or related disciplines (exclusive of archaeology).
>
> Professional experience: At least five years professional experience with paleontological (not including cultural) resources, including the collection, identification and curation of the resources.

The County of San Bernardino (Development Code §82.20.030) requires that paleontological mitigation programs include, but not be limited to:

> (a) Qualified Supervisors. All paleontological work will be supervised by a qualified paleontologist.
>
> (b) Field survey before grading. In areas of potential but unknown sensitivity, field surveys before grading shall be required to establish the need for paleontologic monitoring.
>
> (c) Monitoring during grading. A project that requires grading plans and is located in an area of known fossil occurrence, or that has been demonstrated to have fossils present in a field survey, shall have all grading monitored by trained paleontological crews working under the direction of a qualified paleontologist, so that fossils exposed during grading can be recovered and preserved.
>
> Paleontological monitors shall be equipped and trained to salvage fossils as they are unearthed, to avoid construction delays, and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring is not necessary if the potentially-fossiliferous units described for the property in question are not present, or if present are determined upon exposure and examination by qualified paleontological personnel to have low potential for containing fossil resources.
>
> (d) Recovered specimens. Qualified paleontological personnel shall prepare recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Preparation and stabilization of all recovered fossils is essential in order to fully mitigate adverse impacts to the resources.

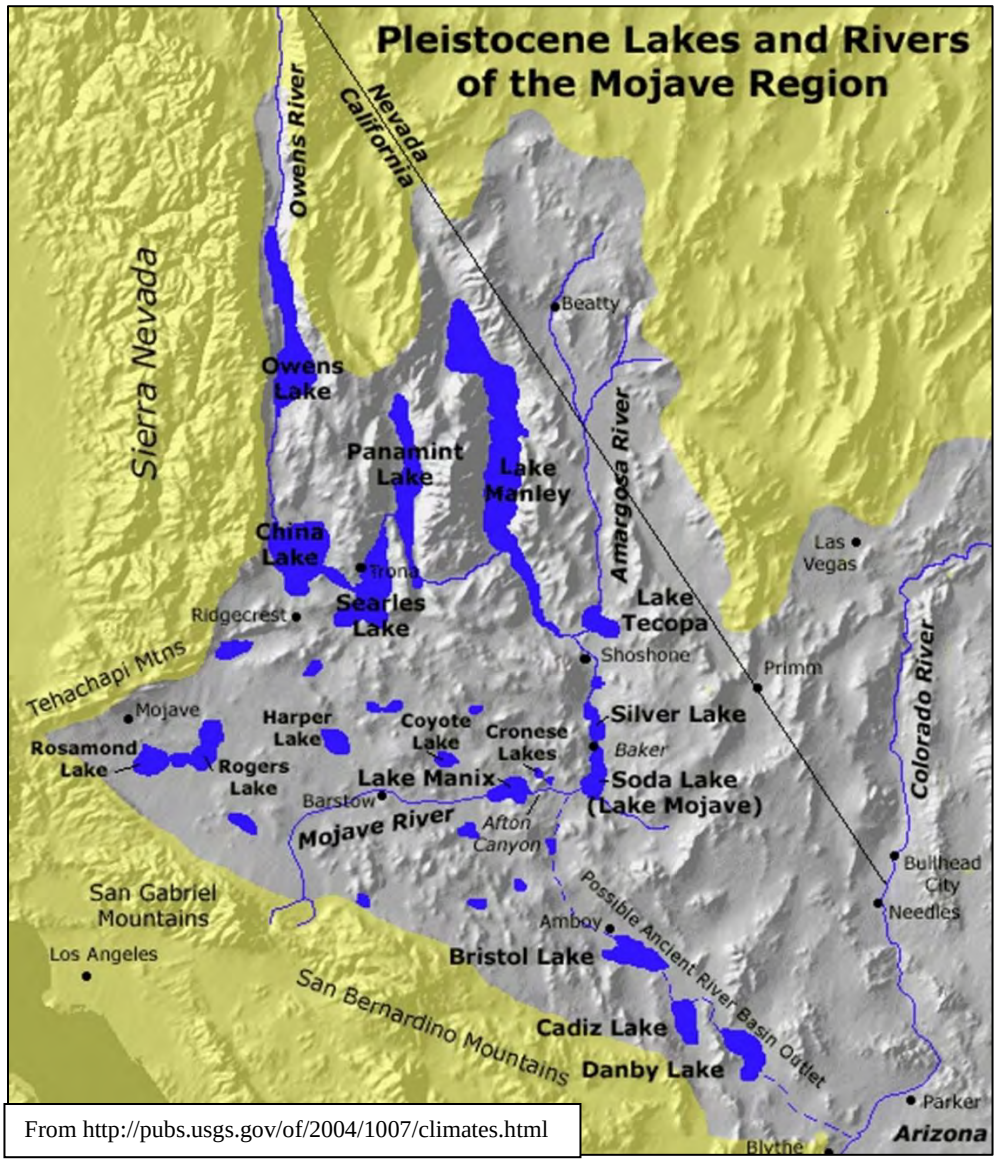
(e) Identification and curation of specimens. Qualified paleontological personnel shall identify and curate specimens into the collections of the San Bernardino County Museum (SBCM) Division of Geological Sciences, an established, accredited museum repository with permanent retrievable paleontological storage. These procedures are also essential steps in effective paleontological mitigation and CEQA compliance. The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts to significant paleontologic resources is not considered complete until curation into an established museum repository has been fully completed and documented.

(f) Report of findings. Qualified paleontological personnel shall prepare a report of findings with an appended itemized of specimens. A preliminary report shall be submitted and approved before granting of building permits, and a final report shall be submitted and approved before granting of occupancy permits. The report and inventory, when submitted to the appropriate Lead Agency along with confirmation of the curation of recovered specimens into the collections of the San Bernardino County Museum (SBCM), will signify completion of the program to mitigate impacts to paleontological resources.

BACKGROUND

REGIONAL GEOLOGY

The Project lies near the center of the Mojave Desert Geomorphic Province which consists of fault bounded isolated mountain ranges and large expanses of desert. Water is typically trapped within the valleys of this region and formed lakes during the Pleistocene, although at times there was some drainage to the Colorado River. Today the lakes can contain water after a large influx of water, but they are typically dry playas. To the south of the bridges is Bristol Dry Lake (Figure 4). The Project channels are fed by dry stream beds from the Marble Mountains to the north.



From http://pubs.usgs.gov/of/2004/1007/climates.html

Figure 4. The Mojave drainage system

STRATIGRAPHY

Three alluvial fan units are present within the study area, ranging from middle Pleistocene to modern and deposited less than 774,000 years ago (Figure 4; Bedford et al. 2006, 2010). Note that while the majority of the area may be mapped as an older deposit, the channel bottoms consist of late Holocene active alluvial fan channel deposits. Additionally one unit may overlie the other such as with Qya/Qia where young alluvial fan deposits overlie intermediate alluvial fan deposits. Note that while the majority of the area may be mapped as an older deposit, the channels crossed by project bridges consist of late Holocene active alluvial fan channels.

INTERMEDIATE ALLUVIAL FAN, MIDDLE TO LATE PLEISTOCENE (QIA)

These alluvial fan surfaces have been abandoned for tens of thousands of years and sediments consist of poorly sorted sandy gravel. The fan surface is flat, smooth, and partly incised by narrow channels. Desert pavement is moderately- to well-developed with moderate to strong clast varnish. Soils consist of a four to ten centimeter thick, well-developed, platy A_v horizon of silt, very fine sand, and clay. The B horizon is moderately to strongly developed with a stage I+ to III+ calcic horizon (Bedford et al. 2006).

YOUNG ALLUVIAL FAN, LATEST PLEISTOCENE TO LATE HOLOCENE (QYA)

These alluvial fan surfaces have received sediment within the past few centuries or millennia. Sediments consist of moderately to poorly sorted, loose to slightly compacted sand and sandy gravel. Surfaces are typically 0.3 to 1.5 meters above active channels and are capped by absent or weak desert pavement and any varnish is incipient or weak. They are characterized by one to three centimeter thick incipient or weak soil (A_v) and occasional reddening of subsurface (cambic B) horizons with stage I calcic development (Bedford et al. 2006).

YOUNGER YOUNG ALLUVIAL FAN, PRESUMABLY HOLOCENE (QYAY)

Similar to the young alluvial fan deposits, this unit is present where older, earliest Holocene and Pleistocene alluvial fan deposits are not present. Specifically, the sediments lack developed pavements or varnish on clasts that can develop varnish. Additionally this unit lack the soil development of a 1 to 4 cm thick A_v horizon, weak cambic to B_{tw} horizon, and stage I to II calcic horizon (Bedford et al. 2006).

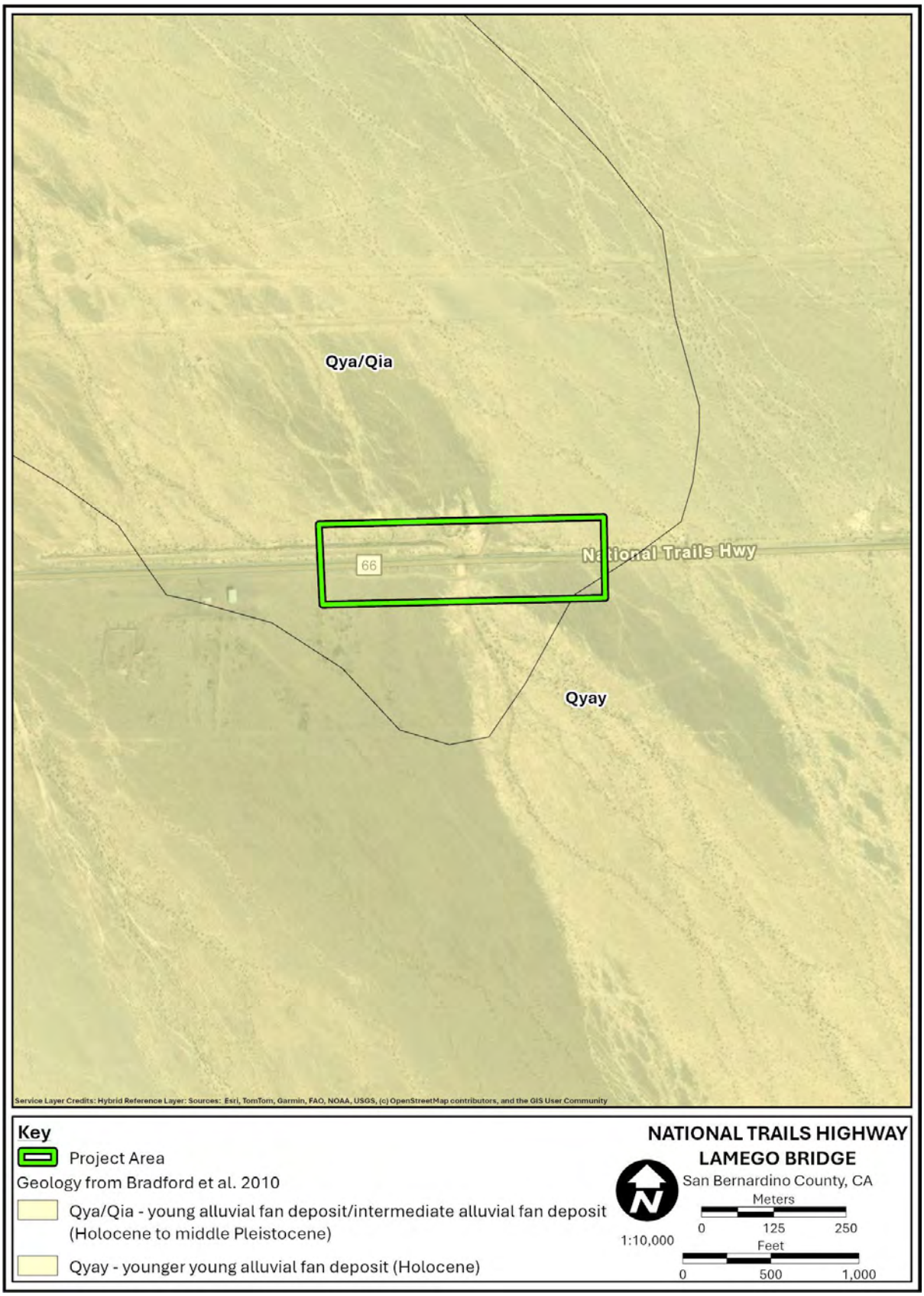


Figure 5. Lamego Ditch Bridge Geology Map

RECORDS SEARCH

The San Bernardino County Museum (Kottakamp 2025a, Appendix C) was contacted for a literature search. Prior literature searches for the area from the SBCM (Scott 2014a, 2014b in Appendix A of Aron and Siren 2014a, 2014b; Scott 2017a, 2017b; Kottkamp 2024, 2025b) and the Natural History Museum of Los Angeles County (Bell 2021) were also reviewed for this study. Additionally, online records from the University of California Museum of Paleontology database (UCMP 2025), and the Paleobiology Database (PBDB 2025) were searched for fossil records as well as print sources (Reynolds 1991; Reynolds and Reynolds 1992; Gust 1999; Jefferson 1991a, 1991b, 2010).

QUATERNARY ALLUVIAL FAN FOSSILS

Alluvial fan and eolian fossils have been recovered from four areas near to the Project (Table 2). In many cases these specimens lack identifications that assist in confirming the age other than Quaternary. The records search from the SBCM stated that more than three dozen localities were present within a 5-mile radius and more than 100 localities were present in a 10-mile radius of the Project in Quaternary deposits (Kottakamp 2025a). Some of this data is presented below.

Table 2. Taxa of Quaternary alluvial fan deposits near to the Project

Common name	Lowest taxon	south of Bristol Mountains (Mtns)	near NTH and Kelbaker Road	Cadiz Road near Archer	southeast of Chambless
plant	Plantae			X*	
freshwater snail	*Succinea sp.*			X	
snail	Gastropoda	X			
pond turtle	cf. Emydidae				X
turtle	Testudinidae				X
desert horned lizard	*Phrynosoma platyrhinos*			X*	
horned lizard	*Phrynosoma* sp.			X	
boa	Boidae			X*	
colubrid snake	Colubridae			X	
snake	Ophidia			X	
common bunting	*Passerina cyanea amoena***			X*	
savannah sparrow	*Passerculus sandwichensis*			X*	
finch	Carduelinae			X*	
vesper bat	Vespertilionidae			X*	
black-tailed jackrabbit	*Lepus californicus*			X*	
jack rabbit	*Lepus* sp.			X	X
rabbit	Leporidae	X			

Common name	Lowest taxon	south of Bristol Mountains (Mtns)	near NTH and Kelbaker Road	Cadiz Road near Archer	southeast of Chambless
Botta's pocket gopher	*Thomomys bottae*			X*	
Ord's kangaroo rat	*Dipodomys ordii*			X*	
kangaroo rat	*Dipodomys* sp.			X	
western harvest mouse	*Reithrodontomys megalotis*			X*	
rodent	Rodentia			X	
carnivore	*Carnivora*				X
deer	Cervidae				X
2 toed ruminate	Artiodactyla	X			
mammal	Mammalia		X		X
vertebrate	Vertebrata listed as Chordata	X	X		X

Cadiz Road near Archer: SBCM 1.42.2-1.42.4; Quaternary (Reynolds and Reynolds 1992, Kottkamp 2024)
south of Bristol Mountains: SBCM 1.55.5-1.55.8; Quaternary (Kottkamp 2024)
southeast of Chambless: SBCM 1.46.7-1.46.8, 1.46.10-1.46.13, 1.46.15-1.46.16, 1.46.18-1.46.20, 1.46.32; Quaternary (Kottkamp 2024)
*indicates a species previously in Reynolds and Reynolds 1992 which is not listed in the Kottkamp 2024 records search.
** *Passerina amoena* x *cyanea* is a hybridized species known at least as early as 1959 (Sibley and Short 1959). It is uncertain what the Reynolds and Reynolds 1992 meant by using "*Passerina cyanea amoena*, common bunting" as both authors are deceased. It is assumed that this is supposed to be the hybrid.

AMBOY NORTH OF ROUTE 66 FOSSILS

Localities north of Amboy have produced specimens of unidentified mammal and vertebrate from young alluvial fan deposits (Bedford et al. 2006, Kottkamp 2024). No other information is available on these specimens.

SOUTH OF BRISTOL MOUNTAINS FOSSILS

Localities between the Bristol Mountains and Lava Hills mapped in older and very old alluvium (Bedford et al. 2006) have produced Pleistocene or Holocene specimens of rabbit, artiodactyl, and unidentified vertebrate (Table 2; Kottkamp 2024). No other information is available on these specimens.

NEAR NTH AND KELBAKER ROAD FOSSILS

The nearest localities to the Project are SBCM 1.46.44 and SBCM 1.53.7, respectively situated 1.15 miles south and 1.2 miles southwest of the NTH and Kelbaker Road intersection (Table 2; Kottakamp 2025b). While the fossils recovered only include fragments of mammal tooth and

chordate bone, the material was recovered from intermediate alluvial fan sediments (Qia) deposited during middle to late Pleistocene.

ARCHER-CADIZ, CADIZ ROAD FOSSILS

Localities between Archer and Cadiz and adjacent to the Ship Mountains have produced Pleistocene or Holocene specimens from alluvial fan deposits (Hayhurst and Bedrossian 2010). Recovered material includes freshwater snail, horned lizard, snake, jack rabbit, and rodent (Kottkamp 2024). The Kottkamp 2024 taxa list does not include some species listed in the Reynolds and Reynolds 1992 review. The published taxa list also includes plant, desert horned lizard, boa, common bunting, savannah sparrow, finch, vesper bat, black-tailed jackrabbit, Botta's pocket gopher, Ord's kangaroo rat, and western harvest mouse (Table 2).

Reynolds and Reynolds (1992) indicated that the specimens were collected below a two foot thick calcium carbonate deposit. This is likely a spring tufa, features that are common around the Mojave region and well developed in places such as Tule Springs in Las Vegas Wash, Nevada and Valley Wells, California. It is unknown if the fossils are Pleistocene or Holocene as there are no Pleistocene indicators in the fauna and the calcium carbonate deposit had not been dated in the 1992 faunal review.

SOUTHEAST OF CHAMBLESS FOSSILS

A small group of localities from southeast of Chambless are mapped in young alluvial fan deposits and undifferentiated surficial deposits (Bedford et al. 2006). Pleistocene or Holocene specimens of pond turtle, tortoise, carnivore, jackrabbit, cervid, mammal, and unidentified vertebrates have been recovered (Table 2; Kottkamp 2024).

PLEISTOCENE (AND HOLOCENE?) LAKE AND WASH FOSSILS

While these sediments are not encountered within the Project, the fossils present give additional information as to the local fauna during the Pleistocene and Holocene when the Project sediments were deposited (Table 3).

Table 3. Taxa of Pleistocene (and Holocene?) lake and wash deposits near to the Project

Common name	Lowest taxon	Danby Dry Lake	Fenner Valley at Cadiz
freshwater clams	*Pisidium casertanum*		X
freshwater snail	*Lymnaea* sp., aff. *L. palustris*		X
freshwater snail	*Planorbella* sp.		?
freshwater snail	*Succinea sp.*		?
toad	*Bufo* sp.		X
western tortoise	†*Hesperotestudo* sp.		X

Common name	Lowest taxon	Danby Dry Lake	Fenner Valley at Cadiz
horned lizard	*Phrynosoma* sp.		X
western whiptail	*Cnemidophorus tigris*		X
desert night lizard	*Xantusia vigilis*		X
spiny lizard	*Sceloporus* sp.		X
collared lizard	cf. *Crotaphytus* sp.		X
side-blotched lizard	cf. *Uta stansburiana*		X
colubrid snake	*Coluber* sp. or *Masticophis* sp.		X
whip snake	*Masticophis* sp.		X
pine snake	*Pituophis melanoleucus*		X
rattlesnake	*Crotalus* sp.		X
Cope's flamingo	†*Phoenicopterus* cf. *copei*		X
Canada goose	*Branta canadensis*		X
bird	Aves		X
black-tailed jackrabbit	*Lepus californicus*	X	
black-tailed jackrabbit	*Lepus* cf. *L. californicus*		X
jack rabbit	*Lepus* sp.	X	cf.
brush rabbit	*Sylvilagus* sp.		X
chipmunk	*Eutamias* sp.		cf.
squirrels	*Spermophilus* (*Xerospermophilus*) sp. or *Spermophilus* (*Ictidomys*) sp.; Sciuridae		X
round-tailed ground squirrel	*Xerospermophilus* cf. *X. tereticaudus*		X
Botta's pocket gopher	*Thomomys bottae*		X
Botta's pocket gopher	*Thomomys* sp. ? *T. bottae*		X
pocket mouse	*Perognathus* sp.		X
kangaroo rats	*Dipodomys* cf. *D. deserti*, *Dipodomys* cf. *D. merriami*	X	
kangaroo rat	*Dipodomys* sp.	X	X
deer mouse	*Peromyscus* sp.		X
wood rat	*Neotoma* sp.		X
coyote	*Canis latrans*		X
dog	*Canis* sp.		cf.
fox	*Vulpes* sp.	X	cf.
cat	Felidae		medium
horse	†*Equus* sp.	X	X
yesterday's camel	†*Camelops* cf. *C. hesternus*		X
camel	†*Camelops* sp.	X	cf.
diminutive pronghorn	†*Capromeryx* cf. *C. minor*		X
diminutive pronghorn	?†*Capromeryx* sp.		X
four [horned] pronghorn	?†*Tetrameryx* sp.		X
Danby Lake Localities "saltmarsh": SBCM 1.41.1, 1.41.2a, 1.41.3-1.41.8; Quaternary (Jefferson 1991b, 2010; Reynolds and Reynolds 1992)			
Fenner Valley at Cadiz: RMW localities, SBCM 1.46.1-1.46.46, 1.52.1-1.52.195; Quaternary (Jefferson 1991a, 1991b; Reynolds and Reynolds 1992, Gust 1999). Reynolds and Reynolds (1992) called this the Cadiz assemblage.			

FENNER VALLEY WASH AT BRISTOL-CADIZ BASIN FOSSILS

A fauna has been recovered primarily from around the town of Cadiz where Fenner Wash exits into the Bristol-Cadiz basin. In the initial Cadiz assemblage (Reynolds 1991; Reynolds and Reynolds 1992), reported fossils of western tortoise (†*Hesperotestudo* sp. (previously †*Geochelone* sp.), dwarf pronghorn antelope (†?*Capromeryx* sp.), four [horned] pronghorn (?†*Tetrameryx* sp.), camel (†cf. *Camelops* sp.), and a medium sized felid "not known from the Rancho la Brea deposits" (Jefferson pers. comm. 1992 in Reynolds and Reynolds 1992). Pleistocene or Holocene specimens from the area include freshwater mollusks, toad, desert tortoise, lizards, snakes, birds, rodents, squirrels, rabbits, and a large canid (Table 3). Additional work done for the Metropolitan Water District (MWD) just south and east of Cadiz produced Pleistocene fossils of flamingo (*Phoenicopterus* cf. *P. copei*), dwarf pronghorn antelope (†*Capromeryx* cf. *C. minor*), yesterday's camel (†*Camelops* cf. C. *hesternus*), horse (†*Equus* sp.), and mammoth (†*Mammuthus* sp.). Pleistocene or Holocene specimens from the survey also include freshwater snail, Canada goose, coyote, kangaroo rat, round-tailed ground squirrel, rabbit, and jackrabbit (Table 3; Gust 1999).

While late Pleistocene localities have been recovered from near to the project in Cadiz and Danby dry lakes (Jefferson 1991a, 1991b; Scott 2014a, 2014b), these should not be considered in determining the project sensitivity as they are from a drastically different paleoenvironment from any of the sediments present in the project area.

FIELD SURVEY

The reconnaissance stage is important to confirm that the geological maps of the project area confirm to what is observed in the field and to assess the sediments present for their potential to contain fossils. Additionally if there are known paleontological resources, it is important to verify the exact location of those resources, the condition or integrity of each resource, and the proximity of the resource to the project area. Ashton Fowler of Cogstone performed field survey on September 11, 2025.

Sediments observed included alluvial fan deposits and recent aeolian sand (Figures 6 to 9). Clasts were very poorly sorted, poorly indurated cobble conglomerate with rounded to angular clasts and sandy matrix. Clasts are mostly metamorphic with some vesicular basalt clasts. Minor recent aeolian sand coverage was present on the west bank of the ditch,

Based on the geology observed all sediments have a low potential to produce fossils. No fossils were encountered during the survey.

Figure 6. Lamego Ditch Bridge overview

Figure 7. Lamego Ditch Bridge east wall on the south side of the bridge
Note: Jacob's staff used as a measuring device is 1.6 meters tall with decimeter markings.

Figure 8. Lamego Ditch Bridge west wall on the south side of the bridge

Figure 9. Lamego Ditch Bridge west wall on the north side of the bridge

PALEONTOLOGICAL SCIENTIFIC RELEVANCE CRITERIA

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific relevance of paleontological resources. Fossils are considered to be useful to science if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct.
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas.
4. The fossils demonstrate unusual or spectacular circumstances in the history of life.
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations (Scott and Springer 2003; Scott et al. 2004).

Scientific relevance is assessed subsequent to recovery and identification of fossils, typically by the scientific institution receiving the fossils. Typically, all identifiable vertebrate fossils are to be curated in perpetuity at an accredited repository after excavations have finished.

Nonvertebrate fossils (plants, shells, trace fossils, etc.) may be collected as a representative sample when numerous fossils of the same species are present. Although initial identifications can be made in the field, final determination on fossil identifications and relevance to science must be made by the repository.

In the case of unidentifiable fossils, unless they can be used for radiometric dating, these typically do not meet the scientific relevance criteria listed above. In the case of isolated finds or single bones, while they may not initially appear to meet the scientific relevance criteria by themselves, they cannot immediately be discounted as not scientifically relevant. This is because the evaluation of evolutionary relationships, development of biological communities, interaction between paleobotanical and paleozoological biotas, or unusual or spectacular circumstances in the history of life (criteria 1, 3, and 4 above) require a large quantity of data to assess. The accumulation of information on localities of similar age with identifiable fossils recovered in a geographic area is necessary to build these data sets.

POTENTIAL FOSSIL YIELD CLASSIFICATION

Fossil resources occur in geologic units (e.g., formations or members). The probability of finding significant fossils in a Monument can be broadly predicted from previous records of fossils recovered from the geologic units present in and/or adjacent to the study area. The geological setting and the number of known fossil localities help determine the paleontological sensitivity according to PFYC criteria.

Sediments that are close to their basement rock source are typically coarse; those farther from the basement rock source are finer. The chance of fossils being preserved greatly increases once the average size of the sediment particles is reduced to 5 mm in diameter or less. Moreover, fossil preservation also greatly increases after natural burial in rivers, lakes, or oceans. Remains left on the ground surface become weathered by the sun or consumed by scavengers and bacterial activity, usually within 20 years or less. So, the sands, silts, and clays of rivers, lakes, and oceans are the most likely sediments to contain fossils.

Using the PFYC system, geologic units are classified according to the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts within the known extent of the geological unit. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher PFYC value; instead, the relative abundance of localities is intended to be the major determinant for the value assignment.

Table 4. BLM PFYC Ranks

PFYC Description Summary (BLM 2016)	PFYC Rank
Very Low. The occurrence of significant fossils is non-existent or extremely rare. Includes igneous (excluding air-fall and reworked volcanic ash units), metamorphic, or Precambrian rocks. Assessment or mitigation of paleontological resources is usually unnecessary except in very rare or isolated circumstances that result in the unanticipated presence of fossils.	1
Low. Sedimentary geologic units that are unlikely to contain vertebrate or scientifically significant nonvertebrate fossils. Includes rock units less than 10,000 years old and sediments with significant physical and chemical changes (e.g., diagenetic alteration) which decrease the potential for fossil preservation. Assessment or mitigation of paleontological resources is not likely to be necessary.	2
Moderate. Units are known to contain vertebrate or scientifically significant nonvertebrate fossils, but these occurrences are widely scattered and/or of low abundance. Common invertebrate or plant fossils may be found and opportunities may exist for casual collecting. Paleontological mitigation strategies will be based on the nature of the proposed activity. Management considerations cover a broad range of options that may include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Surface-disturbing activities may require assessment by a qualified paleontologist to determine whether significant paleontological resources occur in the area of a proposed action, and whether the action could affect the paleontological resources.	3
High. Geologic units containing a high occurrence of significant fossils. Fossils must be abundant per	4

PFYC Description Summary (BLM 2016)	PFYC Rank
locality. Vertebrates or scientifically significant invertebrate or plant fossils are known to occur and have been documented, but may vary in occurrence and predictability. Mitigation plans must consider the nature of the proposed disturbance, such as removal or penetration of protective surface alluvium or soils, potential for future accelerated erosion, or increased ease of access that could result in looting. Detailed field assessment is normally required and on-site monitoring or spot-checking may be necessary during land disturbing activities. In some cases avoidance of known paleontological resources may be necessary.	
Very High. Highly fossiliferous geologic units that consistently and predictably produce vertebrate or scientifically significant invertebrate or plant fossils. Vertebrate fossils or scientifically significant invertebrate fossils are known or can reasonably be expected to occur in the impacted area. Paleontological resources are highly susceptible to adverse impacts from surface disturbing activities. Paleontological mitigation may be necessary before or during surface disturbing activities. The area should be assessed prior to land tenure adjustments. Pre-work surveys are usually needed and on-site monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered.	5
Unknown. An assignment of "Unknown" may indicate the unit or area is poorly studied and field studies are needed to verify the presence or absence of paleontological resources. The unit may exhibit features or preservational conditions that suggest significant fossils could be present, but little information about the actual unit or area is known. Literature searches or consultation with professional colleagues may allow an unknown unit to be provisionally assigned to another Class, but the geological unit should be formally assigned to a Class after adequate survey and research is performed to make an informed determination.	U
Water or Ice. Typically used only for areas which have been covered thus preventing an examination of the underlying geology.	W, I

CONCLUSIONS AND RECOMMENDATIONS

The surface of the Project area is mapped as alluvial fan units are present within the study area, ranging from middle Pleistocene to modern and deposited less than 774,000 years ago.

Alluvial fan sediments, particularly in the coarse-grained areas of the fan, typically do not yield fossils. Due to the arid nature of the region, the location of all bridges on alluvial fans, the lack of potential for burial, and observations during the field survey, all project are assigned a low sensitivity for paleontological resources.

Grading within the existing channels around the bridges may be needed to ensure sufficient storm conveyance and drainage of the area. A maximum excavation of 25 feet below ground surface will be needed to install the abutment footings. No piles are anticipated for this bridge.

No paleontological mitigation is recommended for this project and no further paleontological work is required. If unanticipated discoveries of paleontological resources occur during construction, all work within 50 feet of the discovery should be halted until the find has been evaluated by a qualified paleontologist.

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UCMP

2025 Online records search of the University of California, Berkeley paleontology database. https://ucmpdb.berkeley.edu/advanced.html

APPENDIX A: QUALIFICATIONS

KIM SCOTT

Principal Investigator for Paleontology

EDUCATION

2000 B.S., Geology with paleontology emphasis, University of California, Los Angeles
2013 M.S., Biology with a paleontology emphasis, California State University, San Bernardino

SUMMARY QUALIFICATIONS

Ms. Scott has more than 30 years of experience in California paleontology. She is a sedimentary geologist and qualified paleontologist with extensive experience. She is a skilled professional who is well-versed in the compliance procedures of CEQA, NEPA, and the Paleontological Resources Preservation Act (PRPA). Ms. Scott regularly prepares reports for paleontological assessments, mitigation and monitoring plans and measures, and monitoring reports for a variety of federal, state, and local agencies throughout California. In addition, she has prepared paleontological resources reports for CEQA/ EIR compliance documents for project-level and program-level Specific Plans, General Plans, Master Plans, and Zoning Amendments for mixed-use, residential, commercial and industrial developments. She is a certified/ qualified Principal Paleontologist for all California counties maintaining lists. Scott serves as company safety officer and is the author of the company safety and paleontology manuals.

SELECTED PROJECTS

Mojave Trails National Monument Management Plan, San Bernardino and Riverside Counties, CA. The Monument spans 1.6 million acres of federal lands including more than 350,000 acres of already congressionally designated wilderness managed by the BLM between Barstow and Needles, California. The Monument is intended to help preserve the delicate ecosystems of the Mojave Desert as well as paleontological, cultural, and geological resources. Cogstone prepared a Paleontological Assessment for the Mojave Trails National Monument. Sub to EMPSi Environmental Management and Planning Solutions, Inc. Principal Investigator for Paleontology, report author. 2024-2025.

Purple Line Extension (Westside Subway), Metro/FTA, Los Angeles, CA. The project involves extension of the subway from Wilshire/Western to the VA Facility in Westwood for 9 miles. Cogstone prepared the supplemental Archaeology and Architectural History Reports and the cultural and paleontological sections of the FEIS/FEIR. Cogstone subsequently prepared the cultural and paleontological mitigation and monitoring plans for the entire project. Currently providing monitoring and all other cultural and paleontological services for Section One of the project. Principal Investigator for Paleontology, report co-author. 2011-present

National Trails Highway 10 Bridges Replacement Project, Amboy to Essex, San Bernardino County, CA. The existing bridges were constructed in 1930 with simple timber girders and a continuous cast-in-place/reinforced concrete deck. The bridges span over various manmade ditches that were created to channel surface drainage flows. The existing bridges are proposed to be replaced with reinforced concrete bridges. Sub to Dokken Engineering. Principal Investigator for Paleontology, report author. 2021.

Cactus Basin 4 Project, Rialto, San Bernardino County, CA. Paleontological monitoring and mitigation for the Cactus Detention Basin 4 excavations. Prepared a Paleontological Monitoring Report. Sub to ECORP. Principal Investigator for Paleontology, report author. 2017-2018

Dola and Lanzit Ditch Bridge Replacement Projects, east of Amboy, San Bernardino County, CA. Proposed a management plan for the replacement of the Dola and Lanzit Bridges along National Trails Highway. Supervised paleontological monitoring during construction. Prepared Paleontological Resources Management and Monitoring Plans as well as a Paleontological Monitoring Reports. Sub to ECORP. Principal Investigator for Paleontology, report author. 2016-2017

ERIC SCOTT
Principal Paleontologist/ Task Master/ QA/QC

EDUCATION

1990 M.A., Anthropology (Biological), University of California, Los Angeles
1985 B.A., Anthropology (Physical), California State University, Northridge

SUMMARY QUALIFICATIONS

Mr. Scott is a professional vertebrate paleontologist with 37 years of experience in paleontological mitigation, fieldwork, curation, and research. He is an emeritus paleontology curator at the San Bernardino County Museum, an adjunct instructor at California State University, San Bernardino, and a research associate of the Natural History Museum of Los Angeles County and the La Brea Tar Pits and Museum. He is a 30+ year member of the Society of Vertebrate Paleontology, an international society of professional scientists where he currently serves on the Government Affairs Committee and also holds membership in the Geological Society of America and other professional societies. Eric has published over 40 research articles in professional scientific journals. He is a certified/ qualified Principal Paleontologist for all California counties maintaining lists.

SELECTED EXPERIENCE

Purple Line Extension (Westside Subway) Sections 1 and 2 Construction Management, Los Angeles County Metropolitan Transportation Authority, Los Angeles, Los Angeles County, CA. The project involves construction of seven stations from the existing Purple Line at Wilshire/Western Avenue along Wilshire Boulevard to the Veterans Administration Hospital in Westwood for 8.6 miles. Cogstone supervises paleontological monitoring, fossil recovery, and fossil preparation in the lab. Sub to JV West (Section 1) and AECOM (Section 2). Principal Paleontologist. 2017-ongoing

Los Angeles World Airports (LAWA) Ongoing Technical Support for Environmental, Mitigation Reporting, and Sustainability Issues Associated with LAWA Construction Projects, LAX, Los Angeles County, CA. Cogstone conducted cultural and paleontological resources monitoring during proposed consolidation and modernization of existing facilities. The project involved redeveloping multiple facilities including hangars and associated structures for Delta Airlines and United Arilines, among others. Upon completion of monitoring, Cogstone prepared Cultural and Paleontological Resources Monitoring Compliance Reports. The City of Los Angeles acted as lead agency for the project. Sub to CDM Smith. Program Manager. 2019-ongoing

Vikings Solar Energy Storage Project, Imperial County, CA. Cogstone conducted a peer review of existing cultural and paleontological resources reports and prepared data gap memos in support of the project's EIR. Cogstone also provided AB52 and SB 18 consultation support and sent project information letters to individuals or entities provided by the Native American Heritage Commission (NAHC) that had not already been contacted through AB 52 or SB 18 consultation. Sub to McIntyre Environmental. QA/QC. 2021

Hilltop and Euclid Mixed-Use Project, City of San Diego, San Diego County, CA. Cogstone conducted paleontological resources monitoring during excavations for the proposed construction of 20 single-family residences, 27 two-story townhome residences, 113 affordable apartment units, a parking garage, and approximately 8,300 square feet of commercial space. No paleontological resources were identified during excavation. Sub to Birdseye Planning Group, LLC. Task Manager. 2020-2021

Environmental and Biological Support Services for Transportation Improvements, Caltrans District 1 On-Call, Counties of Del Norte, Humboldt, Lake, and Mendocino, CA. Cogstone has acted as the paleontological consultant for improvement projects in rural areas of Northern California. Cogstone completed and submitted combined Paleontological Identification Reports and Paleontological Identification Reports (PIR/PER) for the following projects: Elk Creek Bridge, Carlotta Curve Improvement, Three Bridges Replacement and Widening, South Eel River Bridge Seismic, Gualala Shoulders and Rumble, Albion Bridge, and Salmon Creek Bridge. All projects were in compliance with state and federal environmental requirements because of the use of state funds. Caltrans was the lead agency under NEPA. Sub to ICF. Task Manager. 2019-2020

APPENDIX B: RECORDS SEARCH

2024 Orange Tree Lane, Redlands, California 92374 | Phone: 909.798.8608
www.SBCounty.gov

SAN BERNARDINO COUNTY

Museum
Division of Earth Science

David Myers
Director

Scott Kottkamp
Curator of Earth Science

September 24th, 2025

Cogstone Resource Management
Attn: Logan Freeberg
1518 W. Taft Avenue
Orange, CA 92865

PALEONTOLOGY RECORDS REVIEW for proposed site of National Trails Lamego Bridge Project (Cogstone 6231), San Bernardino County, California

Dear Mr. Freeberg,

The Division of Earth Science of the San Bernardino County Museum (SBCM) has completed a record search for the above-named project in San Bernardino County, California. The proposed project site (National Trails Lamego Bridge) is in Mojave Trails National Monument, a Bureau of Land Management administered area within the Mojave Desert of California. The project area is shown on the United States Geological Survey (USGS) 7.5-minute Cadiz, California quadrangle.

Geologic mapping of that region done by Bedford et al. (2010) indicates that the project area is situated atop recent Holocene alluvial fan sediments (Qyay). Qyay is unlikely to be fossiliferous due to its young age but may overlie older alluvial sediments with a higher paleontological sensitivity. Surface deposits of middle Pleistocene age (Qia) are present within a mile of the project site. Common Pleistocene taxa found in such alluvial deposits include *Gopherus*, †*Mammut*, †*Mammuthus*, Camelidae, *Equus*, and *Bison*, as well as microfossils including mollusks, lizards, lagomorphs, and rodents.

For this review, I conducted a search of the Regional Paleontological Locality Inventory (RPLI) at the SBCM. The results of this search indicate that no SBCM localities are present at the project area, nor within a 1-mile radius from its perimeter. However, if that radius is extended to

5 miles, over 100 SBCM localities are present within the same Quaternary age alluvial sediments found near the project site. Most of these localities occur in older alluvium that is shallowly overlain by a veneer of Holocene age sediments or soil. The closest of these nearby localities are SBCM 1.46.13 – 16, which are between 1.4 – 1.5 miles east-southeast of the project area. Taxa collected from these localities include cf. Emydidae indet., Cervidae indet., Chordata indet., and rhyzoliths. The fossil bones collected are lightly permineralized and mostly fragmental, while the rhyzoliths were isolated to a 12-inch-deep horizon.

This records search covers only the paleontological records of the San Bernardino County Museum. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Please do not hesitate to contact us with any further questions that you may have.

Sincerely,

Scott Kottkamp

Scott Kottkamp, Curator of Earth Science
Division of Earth Science
San Bernardino County Museum

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