

Zaca Station to Orcutt Drainage Rehabilitation

In Santa Barbara County, California

05-SB-101-PM 65.0/84.1

05-1K510, 0518000215

State Clearinghouse Number 2022050218

Initial Study with Mitigated Negative Declaration

Volume 1 of 2



Prepared by the
State of California Department of Transportation

November 2022



General Information About This Document

Document prepared by: Scott Ostrau, Environmental Scientist

The Initial Study circulated to the public for 30 days between May 10, 2022, and June 15, 2022. Comments received during this period are included in Appendix B.

Elsewhere, language has been added throughout the document to indicate where a change has been made since the circulation of the draft environmental document.

Minor editorial changes and clarifications have not been so indicated.


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Rehabilitate drainage culverts, add lighting, and add or replace
Transportation Management System elements in Santa Barbara
County on State Route 101, from Zaca Station Road near Los
Alamos to 0.2 mile south of the Santa Maria undercrossing in Orcutt

**INITIAL STUDY
with Mitigated Negative Declaration**

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation
Responsible Agencies: California Transportation Commission



John Luchetta
Office Chief, Central Coast Environmental Office
California Department of Transportation
CEQA Lead Agency

November 3, 2022

Date

The following individual can be contacted for more information about this document:

Senior Environmental Planner Jason Wilkinson, 50 South Higuera Street, San Luis
Obispo, California 93401, phone: 805-540-9165



Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

State Clearinghouse Number: 2022050218

District-County-Route-Post Mile: 05-SB-101-65/84.1

EA/Project Number: 05-1K510, 0518000215

Project Description

The California Department of Transportation (Caltrans) proposes to replace and modify 13 drainage culverts, 12 lighting elements, and 5 Transportation Management System elements in Santa Barbara County on State Route 101, from Zaca Station Road near Los Alamos to 0.2 mile south of the Santa Maria undercrossing in Orcutt.

Determination

An Initial Study has been prepared by Caltrans, District 5. On the basis of this study, it is determined that the proposed action with the incorporation of the identified mitigation measures will not have a significant effect on the environment for the following reasons:

The project would have no effect on agriculture and forest resources, cultural resources, energy, hazards and hazardous materials, land use planning, mineral resources, population and housing, public services, recreation, transportation, tribal cultural resources, geology and soils, noise, utilities and service systems, or wildfire.

The project would have no significant effect on aesthetics, hydrology and water quality, air quality, and greenhouse gas emissions.

The project would have no significant effect on biological resources because the following mitigation measures would bring the level of effects to less than significant:

- Mitigation is proposed at a 1 to 1 ratio (acreage) for temporary impacts to stream and riparian habitats and a 3 to 1 ratio (acreage) for permanent impacts to stream and riparian habitats. Caltrans will replace native trees that are removed from the jurisdictional areas at a ratio of 5 to 1.
- To offset habitat impacts to California tiger salamander resulting from the project, a total of up to 18.08 acres of habitat mitigation is proposed and includes a 3 to 1 mitigation ratio for permanent impacts (0.05 acre); and a 1 to 1 mitigation ratio for temporary impacts (18.03 acres).

A handwritten signature in blue ink that reads 'John Luchetta'.

John Luchetta
Environmental Office Chief
District 5 – California Department of Transportation

November 3, 2022

Date

Table of Contents

Chapter 1	Proposed Project	1
1.1	Introduction	1
1.2	Purpose and Need	1
1.2.1	Purpose	1
1.2.2	Need	1
1.3	Project Description	3
1.3.1	Drainage Culverts	3
1.3.2	Lighting Improvements	11
1.3.3	Transportation Management Systems Improvements	11
1.4	Project Alternatives	12
1.4.1	Build Alternative	12
1.4.2	No-Build Alternative	12
1.5	Identification of a Preferred Alternative	12
1.6	Standard Measures and Best Management Practices	12
1.7	Discussion of the NEPA Categorical Exclusion	14
1.8	Permits and Approvals Needed	14
Chapter 2	CEQA Evaluation	15
2.1	CEQA Environmental Checklist	15
2.1.1	Aesthetics	15
2.1.2	Agriculture and Forest Resources	17
2.1.3	Air Quality	18
2.1.4	Biological Resources	19
2.1.5	Cultural Resources	52
2.1.6	Energy	53
2.1.7	Geology and Soils	53
2.1.8	Greenhouse Gas Emissions	55
2.1.9	Hazards and Hazardous Materials	57
2.1.10	Hydrology and Water Quality	58
2.1.11	Land Use and Planning	59
2.1.12	Mineral Resources	60
2.1.13	Noise	60
2.1.14	Population and Housing	62
2.1.15	Public Services	63
2.1.16	Recreation	63
2.1.17	Transportation	64
2.1.18	Tribal Cultural Resources	64
2.1.19	Utilities and Service Systems	65
2.1.20	Wildfire	65
2.1.21	Mandatory Findings of Significance	66
Appendix A	Title VI Policy Statement	69
Appendix B	Comment Letters and Responses	71

Chapter 1 **Proposed Project**

1.1 Introduction

Caltrans proposes to improve 13 drainage culverts, 12 lighting elements, and 5 Transportation Management System elements at various locations in Santa Barbara County on State Route 101 from Zaca Station Road near Los Alamos to the Santa Maria undercrossing in Orcutt. The proposed improvements are located along State Route 101 from post miles 65.0 to 84.1. Figure 1-1 shows the project vicinity, and Figure 1-2 shows the locations of the proposed improvements.

This project is included in the 2020 State Highway Operational Protection Program – Drainage System Restoration.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to:

- Improve and restore culverts to their water conveyance purpose, which protects embankments and roadways from potential failure.
- Replace existing lighting elements that are beyond their useful life and install additional lighting elements to enhance lighting conditions at the Los Alamos interchange and the Cat Canyon intersection.
- Replace and add Traffic Management System elements to improve the collection of traffic data and notify the traveling public of traffic conditions.

1.2.2 Need

- As documented in the Drainage System Reports for the culverts within the project limits, many deficiencies were noted. These include corroded or worn pipe inverts, perforated pipe sections, joint offsets, and significant ditch, channel, and slope erosion, which lead to lower water conveyance capacities and costly emergency repairs.
- The District Electrical unit recommended the rehabilitation of lighting elements that have reached the end of their service life within the project limits.
- Without the proposed Transportation Management System improvements, traffic information collected from within the project limits might be unreliable.

Figure 1-1 Project Vicinity Map

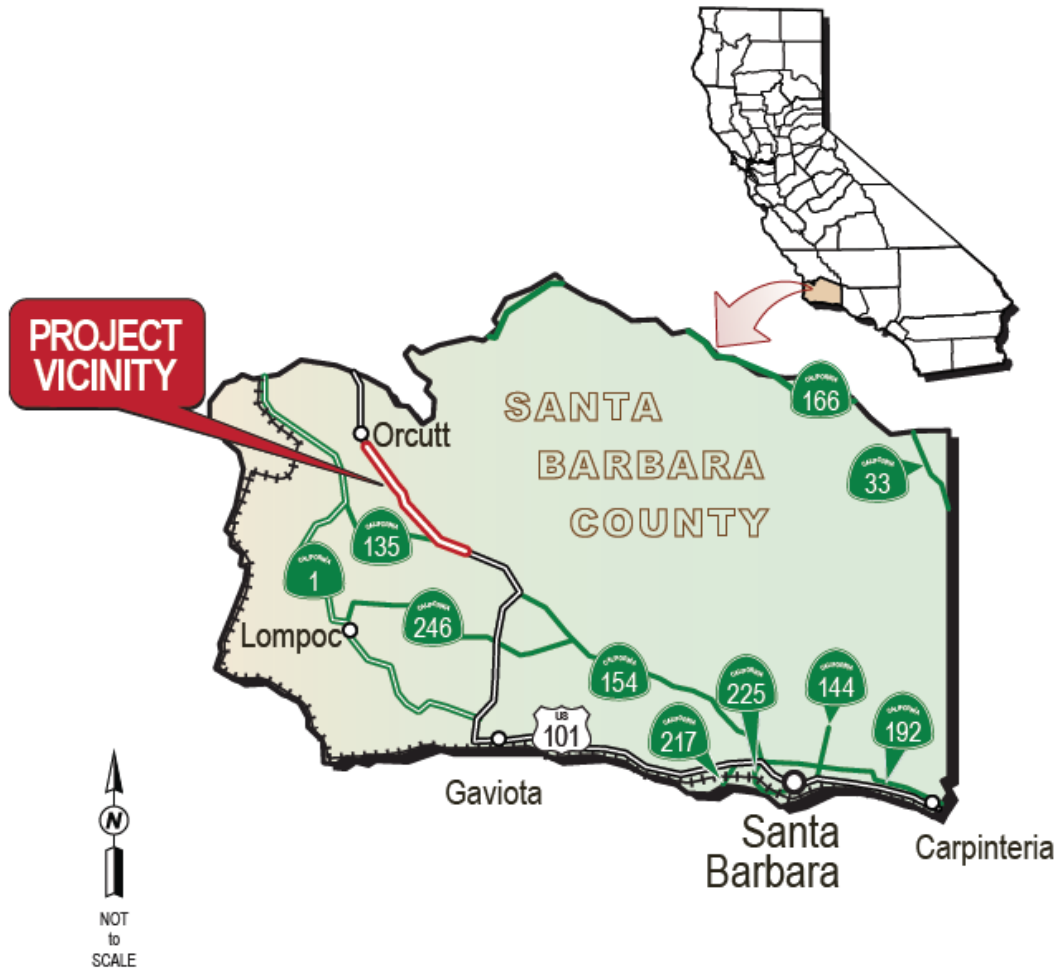
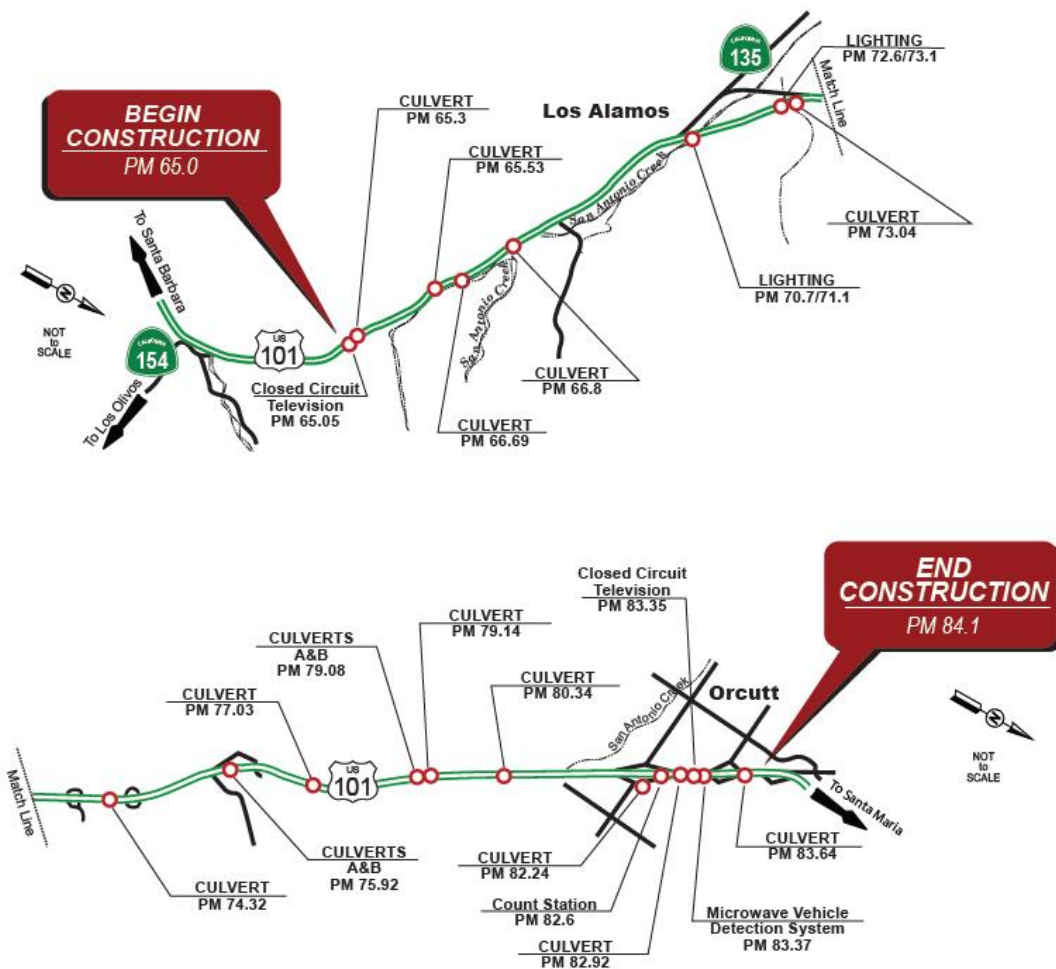


Figure 1-2 Project Location Map



1.3 Project Description

The project proposes to replace and/or modify 13 drainage culverts, 12 lighting elements, and 5 Transportation Management System elements. The subsections below describe the proposed improvements for drainage culverts, lighting, and Transportation Management System elements.

The proposed project was included in the State Highway Operational Protection Program for funding from the Drainage System Restoration Program, with an anticipated construction in fiscal year 2024/2025.

1.3.1 Drainage Culverts

As a result of inventory and hydraulic analysis activities performed by the Culvert Inspection Program of the District Hydraulic Branch, 13 drainage

culverts within the project limits were identified to be in need of repair or replacement. Table 1.1 lists the drainage locations, current conditions, and the proposed methods and strategies for rehabilitation. All drainages have varying levels of damage, shape loss, joint separation, and outlet scouring. The proposed strategy for each culvert varies depending on each site condition.

Eight culverts will be repaired via the cut and cover method, usually accomplished by digging a trench with an excavator. The trench width depends on the pipe diameter, and the depth and slope are determined by the engineer. In most cases, the repair work is not anticipated to have a significant impact on traffic flow because it will take place in the center median or beyond the outside shoulder. However, at post mile 74.32, the project proposes cutting across the State Route 101 southbound lanes and will, therefore, require staged construction to ensure that at least one lane of traffic is available at all times. The remaining drainage improvements include other strategies such as: stabilizing the channels and reconstructing ditches, placing new or replacing existing pipes, culvert invert paving, and joint repair.

Table 1.1 Drainage Culvert Rehabilitation Locations and Proposed Strategies

Location Number	Post Mile	Drainage Culvert Description	Deficiency	Proposed Strategy
1	65.30	The culvert system conveys water from south to north in a skewed manner across State Route 101. The existing channel in the center median is approximately 7 feet long and connects the culvert segment that runs under State Route 101 southbound to the segment that runs under State Route 101 northbound.	The existing channel in the median has significant signs of erosion. Access to the ditch for maintenance purposes is difficult due to the steep and eroded slopes.	<p>Address the ongoing erosion in the open channel in the median by connecting the outlet and inlet with a 36-inch corrugated steel pipe and backfilling. In addition, a perforated pipe riser with a grate will be installed to provide an easy access point for clean-out and maintenance purposes.</p> <p>Minor tree/bush removal is anticipated.</p> <p>All proposed work is outside of the travel way but standard traffic control for closure of the northbound inside lane is anticipated to have access the culvert with necessary equipment.</p>
2	65.53	The culvert system conveys water from south to north in a transverse manner across State Route 101. The system consists of 2 corrugated steel pipe segments under both the northbound and southbound roadway, which are connected by a 55-foot-long unpaved channel in the center median.	There is significant erosion of the steep and unpaved channel within the center median.	<p>Address the erosion in the steep channel in the median by stacking rock slope protection along the channel limits, as well as placing rock slope protection further upstream in a flatter slope area to initially dissipate hydraulic energy.</p> <p>It is anticipated that 2 trees within the excavation limits will need to be removed, as well as some bush removal and other tree trimmings.</p> <p>All proposed work is in the center median and outside of the travel way but standard traffic control for closure of the northbound inside lane is anticipated.</p>

Location Number	Post Mile	Drainage Culvert Description	Deficiency	Proposed Strategy
3	66.69	The existing culvert system conveys water from south to north in a transverse manner across State Route 101. The system consists of 2 corrugated steel pipe segments connected by a side opening drainage inlet in the center median.	The most significant deficiency in this system is at the culvert system inlet along the southbound State Route 101 outside shoulder. The existing inlet and headwall are too close to the travel way.	The existing headwall will be removed, and a flared end section will be placed at the new inlet location along the southbound State Route 101 outside shoulder. Minor grading will be done to assist in directing the water flow to the adjusted location of the inlet. All proposed work is outside of the travel way but standard traffic control for closure of the southbound outside shoulder is anticipated.
4	66.80	The existing culvert system conveys water from south to north in a transverse manner across State Route 101. The system consists of 2 corrugated steel pipe segments connected by a drainage inlet in the center median.	The most significant deficiency in this system is within the connection in the center median and consists of a hole in the pipe soffit approximately 1 foot from the inlet.	Address the hole in the pipe soffit by replacing a 4-foot section of 24-inch corrugated steel pipe and the inlet, both in the center median. All proposed work is outside of the travel way but standard traffic control for closure of the northbound and southbound inside shoulders is anticipated.
5	73.04	The existing culvert system conveys water from north to south in a skewed manner across State Route 101. The system consists of 3 headwalls and a reinforced concrete pipe connected by a 6-foot concrete ditch to a double-barrel corrugated steel pipe.	The most significant deficiency in this system is a joint offset near the headwall in the center median.	Address the joint offset by replacing a 4-foot section of 24-inch corrugated steel pipe starting at the headwall outlet within the center median. All proposed work is outside of the travel way but standard traffic control for closure of the northbound and southbound inside shoulders is anticipated.

Location Number	Post Mile	Drainage Culvert Description	Deficiency	Proposed Strategy
6	74.32	The existing culvert system conveys water from north to south in a transverse manner across State Route 101. The system consists of a reinforced concrete pipe segment connected to a corrugated steel pipe segment by a drainage inlet in the center median.	The most significant deficiency in this system is the corroded invert of the corrugated steel pipe starting in the center median and crossing under the southbound lanes.	Address the corroded pipe invert by replacing the entire 36-inch corrugated steel pipe starting at the inlet in the center median. The culvert to be replaced crosses the southbound lanes and will be excavated via the cut and cover method. Erosion control and rock slope protection will be placed at the outlet on the outside of the southbound travel way. Standard traffic control for closure of the southbound lanes is anticipated.
7	75.92	The existing culvert system conveys water from north to south in a transverse manner across the northbound lanes into the center median. The system consists of 2 drainage inlets, a flared end section, and 2 reinforced concrete pipe segments.	The most significant deficiency in this system is the 2 joint offsets within the center median in each reinforced concrete pipe segment.	Address the 2 joint offsets in the center median by replacing 2 separate 8-foot sections of 24-inch reinforced concrete pipe. All proposed work is outside of the travel way within the center median but standard traffic control for closure of northbound/southbound inside shoulders, including the median cross over, is anticipated.
8	77.03	The existing culvert system conveys water from north to south in a transverse manner across the southbound lanes. The system consists of a headwall and a corrugated steel pipe segment.	The most significant deficiency in this system is a hole in the pipe soffit near the outlet beyond the outside southbound shoulder.	Address the hole in the pipe soffit near the outlet beyond the outside southbound shoulder by replacing the 18-inch corrugated steel pipe culvert and extending it beyond the clear recovery zone. The end treatment for the outlet will consist of a flared end section, as well as placing rock slope protection to dissipate the hydraulic energy. Minor bush removal anticipated. All proposed work is outside of the travel way but standard traffic control for closure of the southbound shoulders is anticipated.

Location Number	Post Mile	Drainage Culvert Description	Deficiency	Proposed Strategy
9	79.08	The existing culvert system conveys water from north to south in a skewed manner across State Route 101. The system consists of 2 headwalls, a drainage inlet, a reinforced concrete pipe segment, and a reinforced concrete box segment.	The most significant deficiencies in this system are a triangular hole in the invert of the reinforced concrete box at the culvert outlet beyond the outside southbound shoulder, and the corrosion of the invert of the reinforced concrete pipe crossing under both the northbound and southbound lanes.	<p>Address the triangular hole in the invert of the reinforced concrete box and the invert condition of the reinforced concrete pipe. The culvert transitions from a 6-foot by 7-foot concrete box culvert to a 60-inch circular concrete pipe. The strategy is to insert corrugated pipe into the concrete box culvert and fill the annular void with slurry-cement. Removal of the tree that is leaning on the existing headwall is anticipated, as well as bush removal. For the existing reinforced concrete pipe, the scope entails paving the bottom third of the pipe invert under both the northbound and southbound lanes. Work will possibly require bush removal.</p> <p>All proposed work is outside of the travel way but standard traffic control for closures of the northbound shoulders is anticipated.</p>
11	80.34	The existing culvert system conveys water from south to north in an overall transverse manner across State Route 101. The system consists of 2 headwalls, 2 drainage inlets, a reinforced concrete box segment, and 2 reinforced concrete pipe segments.	The most significant deficiency in this system is the reinforced concrete box, which has spalling concrete and exposed rebar.	<p>Address the poor condition of the reinforced concrete box inlet by inserting a 36-inch pipe into the 6-foot by 7-foot reinforced concrete box, extending the culvert beyond the clear recovery zone, and filling the annular void with slurry-cement. The end treatment for the inlet will consist of a headwall, as well as minor grading to assist in directing the water flow to the adjusted location of the inlet. In the center median, the project will replace the drainage inlet, as well as grouting the nearby joint displacement.</p> <p>Standard traffic control will occur for southbound lanes. All anticipated work is outside of the travel way but standard traffic control for closures of southbound shoulders and northbound inside shoulder is anticipated.</p>

Location Number	Post Mile	Drainage Culvert Description	Deficiency	Proposed Strategy
12	82.24	The existing culvert system conveys water from north to south in a transverse manner across State Route 101. The system consists of 2 drainage inlets, a flared end section, 1 reinforced concrete pipe segment, and a corrugated steel pipe segment.	The most significant deficiency in this system is the slope erosion surrounding the flared end section inlet.	<p>Address the slope erosion surrounding the flared end section inlet by reconstructing the concrete channel leading into it, as well as re-grading the side slope and paving the ditch that also conveys water into the culvert system.</p> <p>All anticipated work is outside of the travel way but standard traffic control for closure of the northbound shoulder is anticipated.</p>

Location Number	Post Mile	Drainage Culvert Description	Deficiency	Proposed Strategy
13	82.92	<p>The existing culvert system conveys water from north to south in an overall transverse manner across State Route 101. The system consists of 2 drainage inlets, 4 headwalls, a double reinforced concrete box segment, and 4 reinforced concrete pipe segments. A small portion of this system extends beyond the state right-of-way drainage easement from the County of Santa Barbara.</p>	<p>The most significant deficiency in this system is the joint offset in the 18-inch reinforced concrete pipe.</p>	<p>Address the joint offset in the 18-inch reinforced concrete pipe by installing a new connection to the reinforced concrete box without impacting the existing soundwall. Project will also replace the headwall and do minor grading to assist in directing the water flow to the adjusted location of the inlet.</p> <p>The existing culvert under the southbound lanes consists of a dual 5-foot by 4-foot box culvert that is easily accessible from a neighborhood park on Woodmere Road and is part of a Caltrans right-of-way drainage easement. In addition to the box culvert, there are a couple of smaller pipe culverts that connect to the box culvert. One of these is an 18-inch reinforced concrete pipe culvert that needs to be replaced. The culvert also crosses under a freeway soundwall along the right shoulder of the southbound lanes. The strategy is to remove/abandon a section of the 18-inch reinforced concrete pipe culvert and replace it with an 18-inch alternative pipe culvert at a new connection point to the box culvert without impacting the existing soundwall.</p> <p>All anticipated work is outside of the travel way but standard traffic control for closure of the southbound shoulder is anticipated.</p>
14	83.64	<p>The existing culvert system conveys water from north to south in a transverse manner across State Route 101. The system consists of 2 drainage inlets, 1 headwall, and 3 reinforced concrete pipe segments.</p>	<p>The most significant deficiency in this system is the joint offset in the 24-inch reinforced concrete pipe located within the center median under approximately 12 feet of cover.</p>	<p>Address the joint offset in the 24-inch reinforced concrete pipe located within the center median under approximately 12 feet of cover by replacing an 8-foot section of 24-inch reinforced concrete pipe. The culvert will be accessed via excavation by open cut and cover method.</p> <p>All anticipated work is outside of the travel way but standard traffic control for closure of the southbound inside shoulder is anticipated.</p>

1.3.2 Lighting Improvements

The project proposes multiple lighting improvements at two different interchanges: the Los Alamos interchange and the Cat Canyon intersection. The new installations and replacement of fixtures will include demolition or replacement of fixtures and/or foundations, related excavation for new foundations, installation of service cabinets, and utility trenching. Other existing lights can be found at interchanges throughout project limits. The lighting element improvement locations are listed in Table 1.2.

Table 1.2 Proposed Lighting Improvements

Location Number	Post Mile	Location	Strategy	Total Quantity
15	70.7/71.2	Los Alamos Interchange	Multiple areas were identified for installation of new safety lighting. Address the deficiency of safety lighting by installing new lighting elements in multiple areas.	10
16	72.6/73.1	Cat Canyon Intersection	Multiple areas were identified for installation of new safety lighting. Address the deficiency of safety lighting by installing new lighting elements in multiple areas.	2

1.3.3 Transportation Management Systems Improvements

Various existing types of Transportation Management System elements occur throughout the project limits. Transportation Management Systems are implemented by Caltrans to improve the flow of vehicle traffic and improve safety. Technologies such as closed-circuit television cameras, microwave vehicle detection systems, and traffic count stations are used to collect and send traffic data to transportation management centers. The project proposes to replace existing closed-circuit television systems at post mile 65.05 and post mile 83.37. Also, the existing microwave vehicle detection system at post mile 83.35 (northbound direction) and post mile 83.37 (southbound direction) will be replaced. A traffic count station will be installed at post mile 82.60 in the northbound and southbound directions. Table 1.3 shows the locations and elements of the proposed work.

Table 1.3 Proposed Traffic Management System Improvements

Location Number	Post Mile	Element	Strategy
17	65.05	Closed-Circuit Television	Replace existing
18	82.60	Traffic Count Station	Install new
19	83.35 and 83.37	Three existing Transportation Management System elements were identified for upgrading: Microwave Vehicle Detection System, Closed-Circuit Television, and Microwave Vehicle Detection System	Replace existing

1.4 Project Alternatives

There are two alternatives under consideration: the build alternative and the no-build alternative.

1.4.1 Build Alternative

The build alternative is described above in Section 1.3.

1.4.2 No-Build Alternative

Under the no-build alternative, no improvements would be made. The culverts would continue to deteriorate, and there would be no improvements to Transportation Management System elements or lighting. Within the project limits, culverts are severely corroded and perforated and, at some locations, the shape of the culverts has become deformed and the inverts have become damaged. If culverts continue to deteriorate, the roadway could be undermined. Without replacement of the Transportation Management System elements, information collected from the project location might be unreliable or incomplete. Without replacement of the proposed lighting, the existing facilities will continue to deteriorate and would not function as intended. The no-build alternative would not meet the project’s purpose and need.

1.5 Identification of a Preferred Alternative

The Build Alternative, as described in Section 1.3, has been identified as the preferred alternative. The Build Alternative includes all project elements described in the project description.

1.6 Standard Measures and Best Management Practices

This project contains a number of standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project.

These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2. The contractor will be required to adhere to standard measures and best management practices used on all Caltrans projects during construction. Some of these include, but are not limited to the following:

1. The project would include a Transportation Management Plan that would reduce delays and related short-term increases in greenhouse gas emissions from disruptions in traffic flow during construction.
2. Caltrans Standard Specifications Section 14-9, Air Quality, a part of all construction contracts, requires contractors to comply with all federal, state, regional, and local rules, regulations, and ordinances related to air quality. Requirements of the Santa Barbara County Air Pollution Control District will apply to this project. Requirements that reduce vehicle emissions, such as limits on idling time, may help reduce greenhouse gas emissions.
3. All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all the California Air Resources Board emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce greenhouse gas emissions.
4. Caltrans Standard Specifications Section 14-8.02 requires the contractor to control and monitor noise resulting from work activities and not to exceed 86 dBA L_{max} at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. The contractor shall consult the District Noise Specialist if complaints are received during the construction process.
5. During project activities, all trash that may attract predators or scavengers shall be properly contained, removed from the work site, and disposed of at the end of each work week. Following construction, all trash and debris shall be removed from work areas.
6. Construction equipment will be free of excessive dirt that may contain weed seed before entering the construction site. If necessary, wash stations either onsite or offsite will be established for construction equipment under guidance of Caltrans to avoid/minimize the spread of invasive plants and/or seed within the construction area.
7. Water quality-related Best Management Practices include job site management and preparation of a water pollution control plan.
8. Temporary Best Management Practices may include hydraulic mulch, check dams, drainage inlet protection, fiber rolls, concrete washout, and Environmentally Sensitive Area fencing.

9. All project-related hazardous materials spills within the project site will be cleaned up immediately. Readily accessible spill prevention and cleanup materials will be kept by the contractor onsite, at all times during construction.
10. All herbicides, fuels, lubricants, and equipment will be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. Prior to the onset of work, Caltrans will ensure that a plan is in place for a prompt and effective response to accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

1.7 Discussion of the NEPA Categorical Exclusion

This document contains information regarding compliance with the California Environmental Quality Act (CEQA) and other state laws and regulations. Separate environmental documentation, supporting a Categorical Exclusion determination, will be prepared in accordance with the National Environmental Policy Act (NEPA). When needed for clarity, or as required by the California Environmental Quality Act, this document may contain references to federal laws and/or regulations (the California Environmental Quality Act, for example, requires consideration of adverse effects on species identified as a candidate, sensitive, or special-status species by the U.S. National Marine Fisheries Service and the U.S. Fish and Wildlife Service—that is, species protected by the Federal Endangered Species Act).

1.8 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications are required for project construction:

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service	Formal Section 7 Consultation and a Biological Opinion for the California tiger salamander; Formal Section 7 Consultation and use of a Programmatic Biological Opinion for the California red-legged frog	To be obtained before construction
California Department of Fish and Wildlife	1602 Streambed Alteration Agreement	To be obtained before construction
California Department of Fish and Wildlife	Either a 2080.1 Consistency Determination or a Section 2081 Incidental Take Permit is anticipated	To be obtained before construction
U.S. Army Corps of Engineers	Section 404 Nationwide Permit for impacts to jurisdictional “other waters”	To be obtained before construction
Central Coast Regional Water Quality Control Board	Section 401 Water Quality Certification for impacts to “Waters of the State and the U.S.”	To be obtained before construction

Chapter 2 CEQA Evaluation

2.1 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. Potential impact determinations include Significant and Unavoidable Impact, Less Than Significant Impact with Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there are no impacts to a particular resource. A “No Impact” answer reflects this determination. The questions in this checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below.

“No Impact” determinations in each section are based on the scope, description, and location of the proposed project as well as the appropriate technical report, and no further discussion is included in this document.

2.1.1 Aesthetics

Considering the information in the Visual Impact Assessment dated December 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Aesthetics
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact

Question—Would the project:	CEQA Significance Determinations for Aesthetics
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 Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No Impact

Affected Environment

State Route 101 is the main north-south transportation corridor in Santa Barbara County. The landform of the region is characterized by gently rolling hills north of the Santa Ynez Valley with coastal mountains as a distant visual backdrop to the east, west, and south. The areas around Los Alamos and Orcutt are more developed, with residential properties visible from the highway. Land uses outside of these areas are open space, vineyards, and ranches. Oak woodland and chaparral are the predominant plant communities, with riparian corridors along the drainages and creeks.

The visual quality of the setting is moderately high due to the rural character, topographic variety, and patterns of native vegetation. Santa Barbara County planning policies emphasize the protection of visual resources along State Route 101 and underscore the concern and sensitivity regarding aesthetic issues along this route.

Environmental Consequences

Implementation of the project would result in visual changes as seen from public viewpoints such as State Route 101 and some intersecting local streets. An increased visual scale of the highway facility would be the main result of the introduction of additional drainage structures, Transportation Management System elements, and other roadside elements. While they would not be unexpected elements in the roadway environment, their increased size and contrasting appearance would make these otherwise visually neutral features potentially more noticeable and would contribute somewhat to the increased visual scale of the highway facility. The reduction in roadside trees and vegetation would also result in a somewhat more engineered appearance of the highway facility, but this would be temporary as replacement planting and revegetation would occur.

Although potential visual changes would occur, the same type of elements proposed with this project are seen elsewhere along the highway and are not by themselves

inconsistent with the rural roadway character of the region or throughout the state. As a result, the proposed drainage structures and Transportation Management System elements would be subordinate to the overall experience of traveling along the highway.

During and following construction, the most noticeable aspect of the project would likely be the potential staging areas and a reduction in trees and native vegetation associated with construction access. Although some of these actions may be considered temporary, any associated tree and vegetation removal and/or severe pruning may be noticed after construction, resulting in a loss of visual quality.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of the following minimization measures, the project would be consistent with the aesthetic and visual resource protection goals along State Route 101, and potential visual impacts would be reduced:

1. Preserve as much existing vegetation as possible. Prescriptive clearing and grubbing and grading techniques which save the most existing vegetation possible should be used.
2. Revegetate all disturbed areas with native plant species appropriate to each specific work location.
3. Replacement planting shall include aesthetic considerations as well as the inherent biological goals. Revegetation shall include native trees and plants as determined by the Caltrans Biologist and Caltrans District 5 Landscape Architecture. Revegetation shall occur at the maximum extent horticulturally viable and be maintained until established.
4. If vegetation control under guardrail is deemed necessary, then a natural material such as shale shall be used. If concrete vegetation control is selected, then it should be colored to blend with the surroundings and reduce reflectivity. The selection of the vegetation control material and/or color shall be determined and approved by District 5 Landscape Architecture.
5. Following construction, re-grade and re-contour all new construction staging areas and other temporary uses as necessary to match the surrounding pre-project topography.

2.1.2 Agriculture and Forest Resources

Land uses within the areas of potential impact for the proposed project are mostly designated as grazing land, with urban and built-up land within Orcutt and Los Alamos. There are four project locations that have areas of potential impact adjacent to or slightly within farmland designated as unique farmland, or under a Williamson Act contract. However, access would be temporary related to construction and would not prevent the continuation of existing farmland activities in the area. This project would not require any acquisition of property, and no farmland (neither directly nor indirectly) would be converted to nonagricultural use. No forest land or timberland is identified in

the project vicinity that would be converted to non-forest use. Considering this information, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Agriculture and Forest Resources
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
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning, 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
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
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

2.1.3 Air Quality

Considering the information in the Air Quality, Greenhouse Gas, Noise and Water Quality Technical Assessment Memo dated December 2020, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Air Quality
a) Conflict with or obstruct implementation of the applicable air quality plan?	No Impact

Question—Would the project:	CEQA Significance Determinations for Air Quality
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?	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No Impact

2.1.4 Biological Resources

Considering the information in the Natural Environment Study dated December 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Biological Resources
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic Atmospheric Administration Fisheries?	Less Than Significant Impact With Mitigation Incorporated
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Less Than Significant Impact With Mitigation Incorporated
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Less Than Significant Impact With Mitigation Incorporated

Question—Would the project:	CEQA Significance Determinations for Biological Resources
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?	Less Than Significant Impact With Mitigation Incorporated
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
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

Affected Environment

Within the project limits, State Route 101 passes through a rural setting where the dominant land use is agricultural with ranching properties and vineyards located directly adjacent to the highway. This rural setting also contains areas of native habitat with oak woodlands and oak savannahs scattered throughout much of the ranching properties. The ranching properties and vineyards are found mostly south of post mile 81 near the town of Orcutt. Throughout this portion of the project, the highway also crosses several intermittent streams providing riparian habitat of varying quality, although most are outside of the project locations. State Route 101 crosses through the town of Orcutt between post mile 81 and the north end of the project, resulting in more urban development and little to no areas of native habitat. In this area, residential properties border the western (southbound) side of the highway, while various agricultural land uses occur on the eastern (northbound) side of the highway.

To determine potential biological impacts of the project, a desktop review and field surveys were conducted within the Biological Study Area. The Biological Study Area is defined as the area that may be directly, indirectly, temporarily, or permanently impacted by construction and construction-related activities. Because this project has multiple locations, the Biological Study Area is composed of 21 separate polygons around the various project locations, as shown in Figures 2-1 through 2-12.

Queries and official species lists were used to develop a list of special-status species and sensitive natural communities that have the potential to occur within the Biological Study Area. Sensitive species and habitats with potential to be present in the project impact area were further researched and prioritized for identification during field surveys.

Field surveys were conducted between April 2020 and August 2021. Floristic surveys were conducted within a range of months when target special-status species were flowering and identifiable following the guidelines of the U.S. Fish and Wildlife Service

and California Department of Fish and Wildlife. General reconnaissance-level wildlife surveys coincided with the botanical surveys and wildlife species and habitats surveys and were documented.

Natural Communities and Habitats of Concern

Based on information obtained from literature review and the results of the field surveys, it was determined that no sensitive natural communities or habitats of concern have the potential to occur within the Biological Study Area.

Special-Status Plant Species

Although several special-status plant species had the potential to occur within the Biological Study Area, it was determined that the urban and agricultural landscape in the Biological Study Area has been altered so that historic natural habitat conditions that support these taxa are either no longer present or too frequently disturbed to currently support the taxa. No special-status plant species were observed during field surveys. None of those species are expected to occur within the Biological Study Area, and no special-status plant species are anticipated to be impacted by the project as proposed. There will be no effect on any federally or state listed plants or their critical habitat.

Special-Status Animal Species

Several special-status animals have the potential to occur within the Biological Study Area. The names and legal status of the special-status animal species are shown in Table 2.1, along with a general description of the habitat requirements for each species and the potential for each to occur within the Biological Study Area.

Jurisdictional Wetlands, Other Waters, and Riparian Habitat

Jurisdictional wetlands, other waters, and riparian habitat are regulated by the U.S. Army Corps of Engineers, Regional Water Quality Control Board and California Department of Fish and Wildlife. Wetlands function to improve water quality, detain storm water runoff, recharge groundwater, and provide wildlife habitat. Riparian habitat along streams provides wildlife habitat, insects for food for aquatic species, and shade and cover for aquatic species, which helps regulate stream temperature.

Two project locations within the Biological Study Area have jurisdictional resources that include riparian habitats and/or ephemeral drainage streams (temporary water channels formed by water during or immediately after rains):

- Location 9 at post mile 79.08
- Location 13 at post mile 82.92

The ephemeral drainage at Location 9 (post mile 79.08) consists of a stream channel with a sandy bed and low bench with willow riparian habitat downstream of State Route 101. Upstream of State Route 101, the stream has a sandy bed with no woody vegetation. Although arroyo willow habitat occurs in this drainage, it is outside of the study area. The riparian habitat within the Biological Study Area at this location is

classified as coyote bush scrub. While agricultural runoff may result in water quality impairments, the downstream riparian habitat provides good habitat for wildlife.

The drainage feature at Location 13 (post mile 82.92) consists of a concrete-lined 10-foot-wide ephemeral stream channel that drains to a detention pond immediately downstream. The feature is largely devoid of natural habitat due to the concrete lining and urban setting. The stream is in a landscaped park with maintained lawns and large blue gum trees. The water quality is likely degraded by upstream agricultural impacts.

The remaining culvert locations within the Biological Study Area were not identified as jurisdictional for the following reasons: 1) they did not have features characteristic of natural water conveyance; 2) they were not vegetated with much upland and invasive plant species; and 3) they did not present signs of natural beds or banks.

Figure 2-1 Biological Study Area Locations 1, 2, and 17

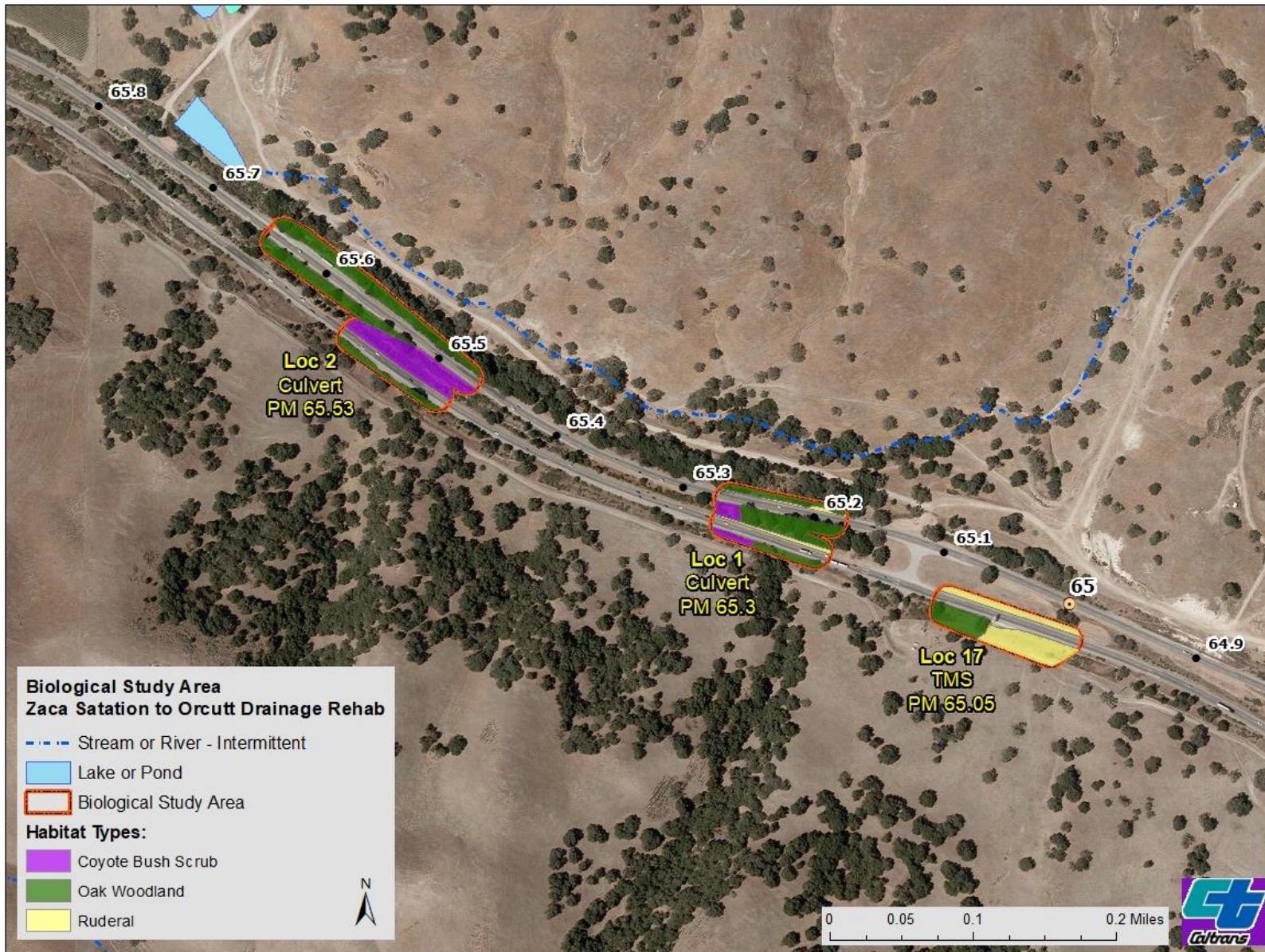


Figure 2-2 Biological Study Area Locations 3 and 4



Figure 2-3 Biological Study Area Locations 5 and 16 (Lighting improvements at PM 72.6/73.1 have been removed)

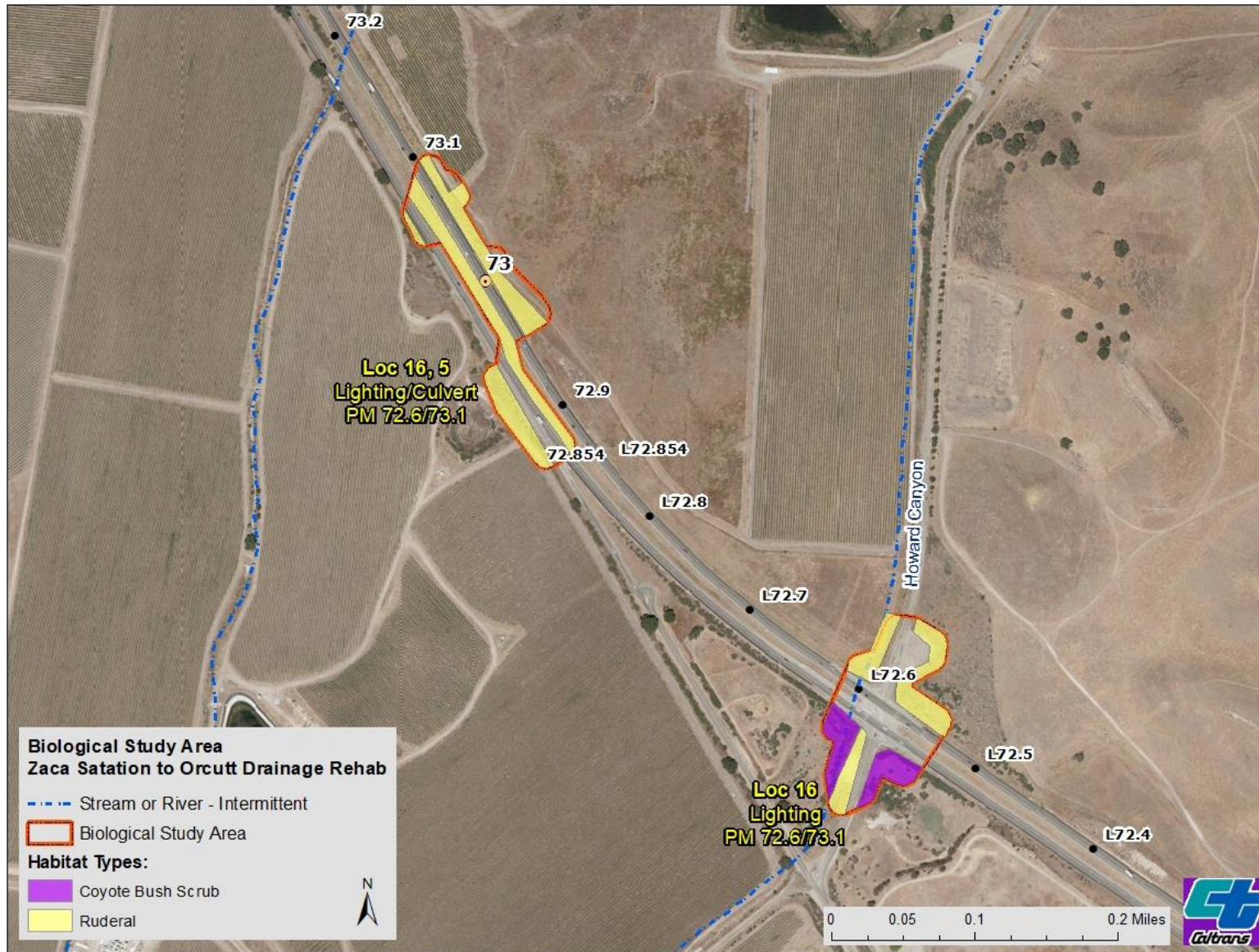


Figure 2-4 Biological Study Area Location 6



Figure 2-5 Biological Study Area Location 7



Figure 2-6 Biological Study Area Location 8

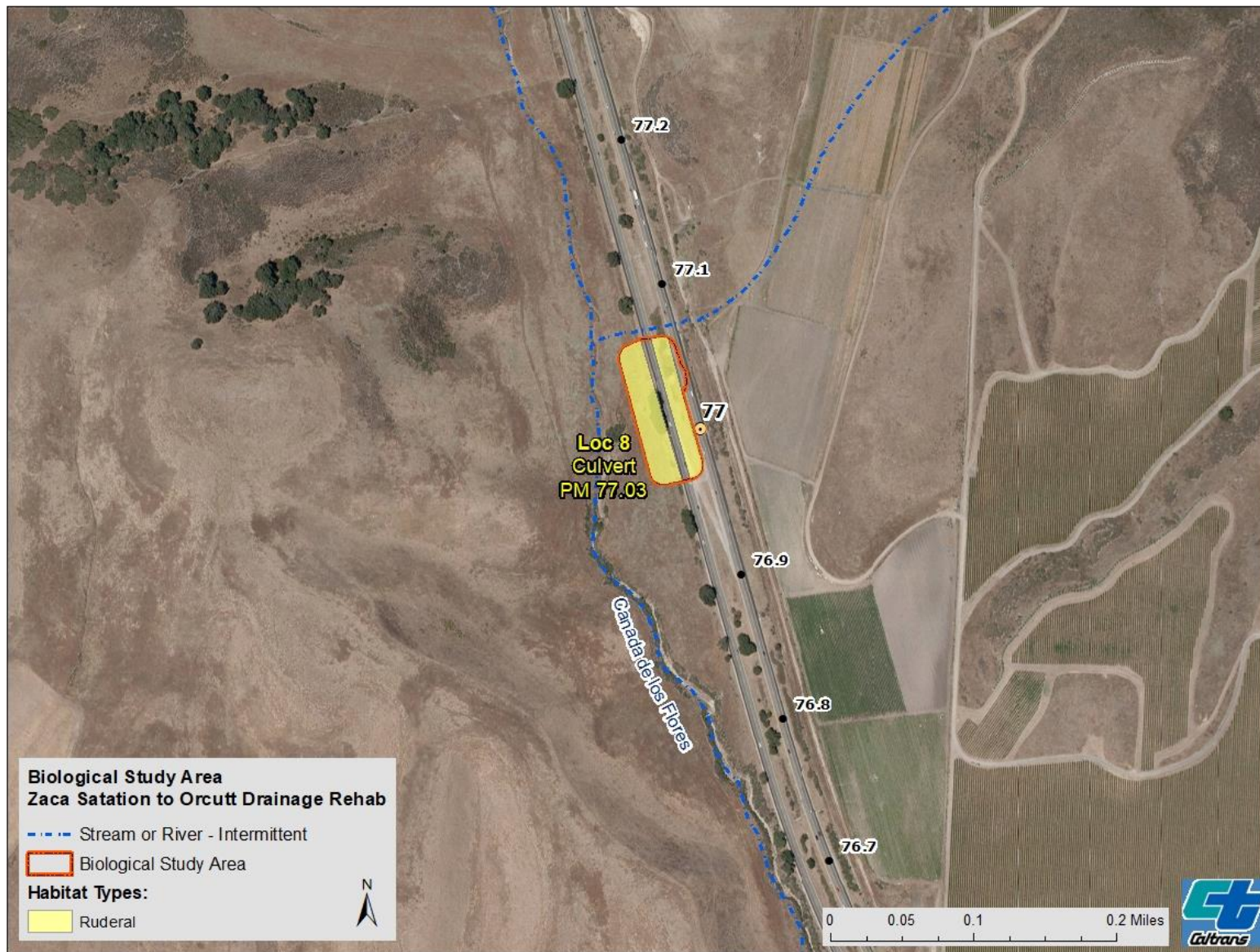


Figure 2-7 Biological Study Area Location 9

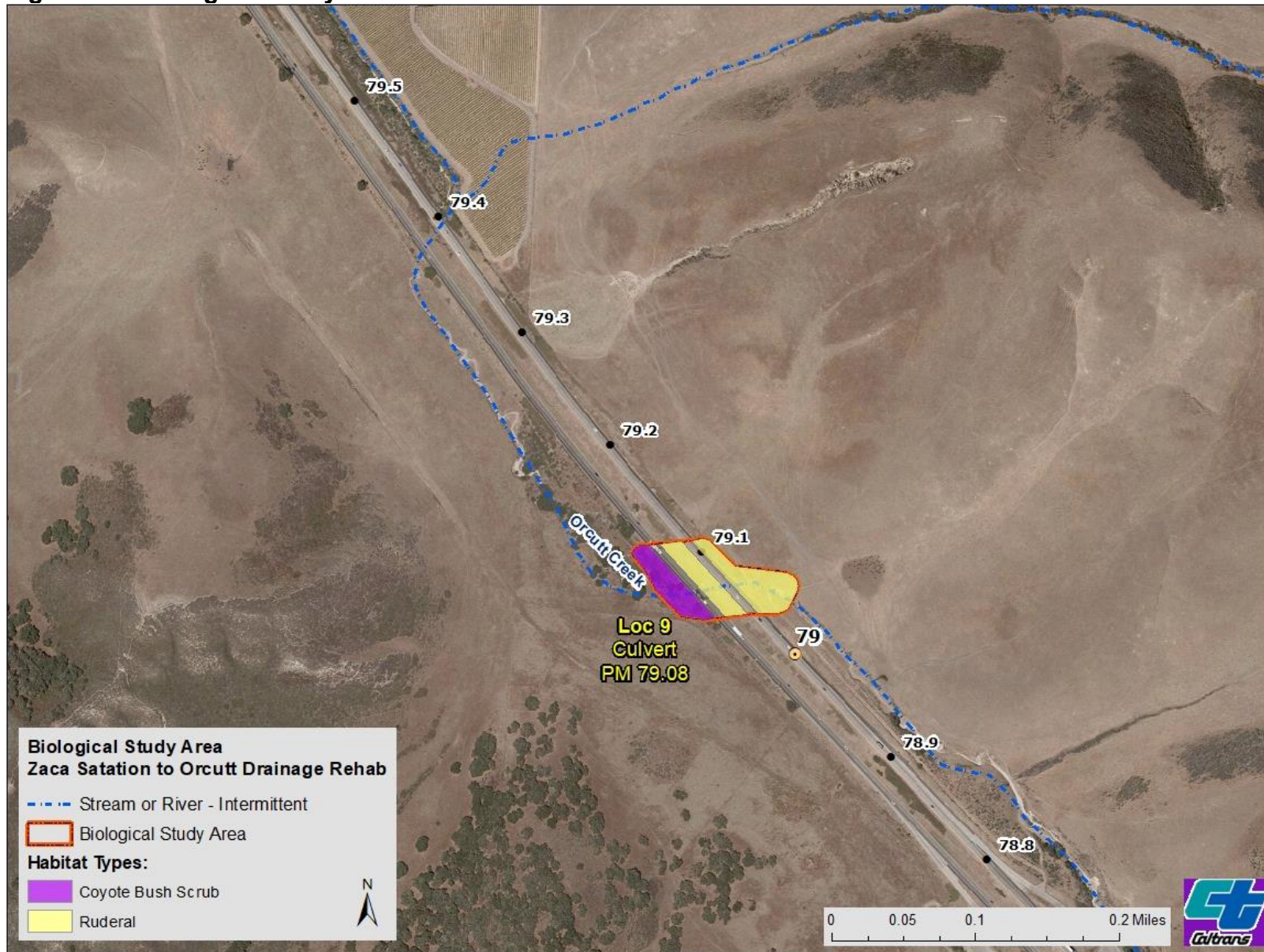


Figure 2-8 Biological Study Area Location 11



Figure 2-9 Biological Study Area Location 12



Figure 2-10 Biological Study Area Locations 13 and 18



Figure 2-11 Biological Study Area Locations 14 and 19



Figure 2-12 Biological Study Area Location 15



Table 2.1 Special-Status Animal Species Potentially Present in the Biological Study Area

Scientific Name	Common Name	General Habitat Description	Presence Within Biological Study Area
Amphibians <i>Ambystoma californiense</i>	California tiger salamander	Occurs in grasslands or oak woodlands that support natural ephemeral pools or ponds that mimic them. This species requires seasonal water for breeding and small mammal burrows, crevices in logs, piles of lumber, and shrink-swell cracks in the ground for refuges. To be suitable, aquatic sites must retain at least 12 inches of water for a minimum of 10 weeks in the winter.	Suitable breeding habitat is not present within the Biological Study Area, but the Biological Study Area is within dispersal range of known breeding areas. There are several California Natural Diversity Database records and designated critical habitat in the region. Species was not observed during biological surveys, though protocol surveys were not performed. Presence within the Biological Study Area is inferred based on California Natural Diversity Database occurrence records and the presence of suitable habitat being within movement distance to the project locations. Federal Endangered Species Act Section 7 determination is may affect, likely to adversely affect the species and no effect to critical habitat. California Endangered Species Act determination is that take of the species may occur. Avoidance and minimization measures recommended.
Amphibians <i>Rana draytonii</i>	California red-legged frog	Aquatic habitat with little or no flow. Presence of surface water to at least early June. Surface water depths to at least 2-3 feet with presence of fairly sturdy underwater supports such as cattails.	Suitable breeding habitat is not present within the Biological Study Area, but some of the locations are within dispersal range of the species. There are California Natural Diversity Database records in the region. Species not observed during biological surveys. Chances are low that California red-legged frogs would be found due to lack of suitable habitat within the Biological Study Area or barriers exist between the breeding habitat and the project location. Federal Endangered Species Act Section 7 determination is may affect, likely to adversely affect the species. Avoidance and minimization measures recommended.
Amphibians <i>Spea hammondi</i>	western spadefoot	Prefers open areas with sandy or gravelly soils, particularly dry washes. Occurs in the Central Valley, Central Coast and Southern California into Baja California, mainly in moderate to high elevation areas. Seeks seasonal pools for breeding grounds following early winter rains.	Suitable low-quality habitat is present within and near the Biological Study Area. There are several California Natural Diversity Database records in the region. Species not observed during biological surveys. Avoidance and minimization measures recommended.

Scientific Name	Common Name	General Habitat Description	Presence Within Biological Study Area
Birds <i>Asio otus</i>	long-eared owl	Breeds in central and southern coastal California in dense trees near open country for hunting. Generally avoids large tracts of unbroken forest. Uses other species' nests or builds nests on ledges.	Suitable low-quality nesting habitat occurs in the Biological Study Area. Species not observed during biological surveys. Avoidance and minimization measures recommended for nesting birds.
Birds <i>Athene cunicularia</i>	burrowing owl	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent on mammal burrows for nests, especially burrows of the California ground squirrel. Preferred nesting sites have loose soil, some elevation to avoid floods, outlooks, and a high density of burrows.	Suitable low-quality nesting habitat occurs in the Biological Study Area. Species not observed during biological surveys. Avoidance and minimization measures recommended for nesting birds.
Birds <i>Eremophila alpestris actia</i>	California horned lark	Favors bare, dry ground and areas of short, sparse vegetation. Common habitats include prairies, deserts, beaches, dunes, and heavily grazed pastures.	Suitable low-quality nesting habitat occurs in the Biological Study Area. Species not observed during biological surveys. Avoidance and minimization measures recommended for nesting birds.
Birds <i>Lanius ludovicianus</i>	loggerhead shrike	Prefers open country for hunting, with perches for scanning. Breeds in a variety of semi-open terrain from large clearings in woodlands to open grassland and sparse shrublands, throughout most of central, western and southern California.	Suitable low-quality nesting habitat occurs in the Biological Study Area. Species not observed during biological surveys. Avoidance and minimization measures recommended for nesting birds.
Mammals <i>Antrozous pallidus</i>	pallid bat	Inhabits deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in large colonies, typically in crevices and cracks in rocks or secondarily human structures.	Suitable habitat found in the Biological Study Area. Species observed during field surveys. Avoidance and minimization measures recommended.
Mammals <i>Corynorhinus townsendii</i>	Townsend's big-eared bat	Found throughout California in a wide variety of habitats. Most common in mesic sites. Night roosts in the open, hanging from walls and ceilings. Roosting sites limiting. May use trees for day and night roosts; however, requires caves, mines, rock faces, bridges or buildings for maternity roosts. Maternity roosts are in relatively warm sites. Extremely sensitive to human disturbance.	Suitable habitat found in the Biological Study Area. Species observed during field surveys. Avoidance and minimization measures recommended.

Scientific Name	Common Name	General Habitat Description	Presence Within Biological Study Area
Mammals <i>Taxidea taxus</i>	American badger	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Prefers areas with sandy loam soils.	Suitable habitat found in the Biological Study Area. There are several California Natural Diversity Database records in the region. Species not observed during biological surveys. Avoidance and minimization measures recommended.
Reptiles <i>Anniella pulchra</i>	northern legless lizard	Occurs in sandy soil and sparsely vegetated areas of beach dunes, scrub, woodlands, and sandy washes. Prefers soils with a high moisture content.	Suitable low-quality habitat is present within and near the Biological Study Area. There are several California Natural Diversity Database records in the region. Species not observed during biological surveys. Avoidance and minimization measures recommended.
Reptiles <i>Phrynosoma blainvillii</i>	coast horned lizard	Found in habitats in coastal mountains and valleys, along the Pacific Coast from Baja California north to the San Francisco Bay area. Inhabits open areas of sandy soil and low vegetation and dry washes.	Suitable low-quality habitat is present within and near the Biological Study Area. There are several California Natural Diversity Database records in the region. Species not observed during biological surveys. Avoidance and minimization measures recommended.

Environmental Consequences

Most of the Biological Study Area is dominated by ruderal (weedy) habitat that is subject to routine disturbance associated with highway maintenance and operations. Most project impacts would be limited to these ruderal roadside areas that are already highly disturbed. Permanent impacts are associated with the addition of rock slope protection and flared end sections at culvert outlets, new lighting, and Transportation Management System elements and associated features. Replacement of existing features at the same location is not considered a permanent impact. Temporary impacts are associated with vegetation clearing, excavation, staging, and construction access.

Special-Status Animal Species

California Tiger Salamander

The project will result in up to 0.05 acre of permanent impacts and up to 18.03 acres of temporary impacts to potential upland dispersal/refuge habitat for the California tiger salamander. The project will not result in impacts to breeding habitat or designated critical habitat because such habitat does not occur in the Biological Study Area. These estimated impacts represent the worst-case scenario based on the assumption that all upland habitat impact areas within dispersal range of the California tiger salamander are suitable migratory and refuge habitat, which will be refined as the regulatory permit applications are completed. If the species is present during construction, construction activity could result in the injury or mortality (via accidental crushing by equipment) of an unknown number of California tiger salamanders residing in small mammal burrows within upland habitat in the Biological Study Area. California tiger salamanders could also be entombed in small mammal burrows collapsed by construction activities, which could result in injury or mortality. Also, the potential need to capture and relocate California tiger salamanders could subject these animals to stresses that could result in adverse effects.

Adding night lighting or changing the types of lights from incandescent to LED has the potential to degrade the quality of natural habitat areas outside of the highway right of way. Wildlife may become misdirected and disoriented from artificial illumination and can either be attracted to or repulsed by glare, which affects foraging, reproduction, and communication (Longcore and Rich 2004). California tiger salamanders are most active at dawn and dusk where low light makes them less vulnerable to predation. While many amphibians can be temporarily blinded by sudden increases in light, they eventually become adjusted and even attracted to light, thereby more exposed to predation.

However, the locations where new and updated lights are proposed have many other problems that limit the likelihood that California tiger salamander would be able to access these locations. Lighting location 16b is at an off-ramp with curbs and is not within dispersal distance from potential breeding habitat. Lighting Locations 15a/b are within an urban and highly modified rural landscape in Los Alamos, with curbs, fences, and multiple land uses that make it unlikely that California tiger salamander would successfully move across the developed landscape. The most likely feasible location where the species has a chance for successfully moving through this landscape is in the San Antonio creek bed, a dry sandy wash. The wash has variable vegetation cover and

variable litter cover for California tiger salamander that could facilitate its use, except during periods when the stream is flowing (likely only high rainfall events). The proposed lighting changes at Locations 15a/b are not expected to illuminate the stream or riparian zone due to existing vegetation or structures between the lights and the habitat features. Furthermore, the existing US-101 culverts in San Antonio Creek near lighting Location 15b (the culverts are not in the proposed project) may only provide limited function for the species due to the high amount of human activity.

The Federal Endangered Species Act Section 7 effects determination is that the project may affect and is likely to adversely affect the California tiger salamander. The project may also result in take under the California Endangered Species Act. The basis for these determinations is that California tiger salamander presence is inferred and there would be a low but possible potential for take of the species because of project work.

California Red-legged Frog

Potential breeding habitat for the California red-legged frog does not occur within the Biological Study Area, and the project will not appreciably reduce the amount or quality of upland habitat for the California red-legged frog. Seven project locations are within the range of and are potentially accessible by the California red-legged frog. Of these, none will involve permanent impacts. Although temporary impacts to upland dispersal habitat may occur, the chances are low that frogs are present in the Biological Study Area due to heavy traffic and poor habitat conditions. However, there are many potentially suitable breeding sites within dispersal distance to proposed project features and there is a potential that dispersing frogs may be present in some of the proposed work areas during construction. As such, Caltrans has changed the determination of effect to may affect, likely to adversely affect.

The Federal Endangered Species Act Section 7 effects determination is that the project may affect, likely to adversely affect the California red-legged frog.

Western Spadefoot, Northern Legless Lizard, and Coast Horned Lizard

The project has the potential to impact the western spadefoot, northern legless lizard, and coast horned lizard if these species are found burrowing or breeding in the Biological Study Area and due to increased lighting in their dispersal habitat. However, the chances are low due to poor habitat conditions immediately adjacent to the highway, where most of the work will take place, due to repeated maintenance disturbance. The amount of potential impacts to suitable habitat for these reptiles is similar to the upland habitat for the California tiger salamander. Due to the low amount of permanent impacts dispersed among several sites, the project is not expected to appreciably reduce the quality or amount of suitable habitat for any of these special-status reptiles or amphibians. Increased lighting features has the potential to adversely impact species using ponds in the region and dispersing across the landscape, and measures to minimize the increase in illumination are included in the following section.

American Badger

The project has the potential to impact the American badger if the badger is found burrowing or moving through the Biological Study Area during construction. However, the chances for direct impacts are low due to poor habitat conditions immediately adjacent to the highway, where most of the work will take place, due to repeated maintenance disturbance. High quality habitat was found outside of the project area, but no burrows of sufficient size were found within the project locations. Existing culverts are too small to be used for badger movement. Due to the low level of permanent impacts dispersed among several sites, the project is not expected to appreciably reduce the quality or amount of suitable habitat for the American badger. Increased lighting features have the potential to adversely impact species using the area, and measures to minimize the increase in illumination are included in the following section.

Special-Status and Other Nesting Birds

Vegetation removal and site grading could impact active bird nests and any eggs or young residing in nests. Indirect impacts could also result from noise and disturbance associated with construction, which could alter foraging or nesting behaviors. While temporary loss of vegetation supporting potential nesting habitat could occur, this would be offset by revegetation efforts for the project. Increased lighting features have the potential to adversely impact nesting birds by illuminating potential nesting habitat which may increase the risk of predation to eggs and chicks. Implementation of the proposed avoidance and minimization measures will reduce the potential for negative impacts to nesting bird species.

Townsend's Big-eared Bat, Pallid Bat, and Other Roosting Bats

The culvert at Location 9 (post mile 79.08) is used by Townsend's big-eared bats for day roosting and by pallid bats for night roosting. Occupancy is expected to be very low, but consistent, with potentially year-round use. Construction activities at Location 9 would temporarily displace solitary Townsend's big-eared bats and pallid bats, but would not impact breeding or maternal activities. Repair of the culvert and clearing of the sedimentation would require exclusion for an approximate 3- to 6-month period. Roosting habitat would then be restored once the repair was complete. Townsend's big-eared bats are known to be highly sensitive to disturbances and have the potential to abandon roosts, but may eventually return due to limited structures in the area. Pallid bats are relatively common in the region and are likely to return after construction.

There is a potential that oak trees proposed for removal at Locations 1, 2 and 9 could support roosting bats (a variety of species). However, the likelihood is low due to their immediate proximity to highway disturbance and the extent of less disturbed, higher quality habitat nearby. Tree removal has the potential to impact roosting bats if they are present during the work.

Jurisdictional Wetlands, Other Waters, and Riparian Habitat

Estimated permanent and temporary impacts to jurisdictional areas are quantified in Table 2.2 and shown in Figures 2-13 to 2-15. Permanent impacts to jurisdictional resources will occur at one project location, Location 9 (post mile 79.08), where the

project would extend the length of the outlet of the culvert by 2 feet and add rock slope protection to the outlet. The permanent impact area is estimated to be 0.003 acre, or 127 square feet. Temporary impacts will occur at Locations 9 and 13 as a result of vegetation clearing, temporary excavation, replacement of existing features (including concrete features), construction access, and equipment staging. In addition, the invert (bottom) of the culvert at Location 9 (post mile 79.08) will be re-paved with concrete, and one coast live oak tree will be removed. All of the impacts are at highly modified and ephemeral streams representing low-quality habitat. Based on observations made during the jurisdictional delineations, the other waters and riparian areas within the Biological Study Area provide low to moderate physical/hydrological functions (flood control, groundwater recharge). Given the ephemeral nature of these drainages, and since work will occur in the dry season, these functions will be largely unaffected by the project.

Table 2.2 Summary of Impacts to Jurisdictional Areas

Regulatory Authority/ Habitat Type	Total Area in Biological Study Area (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)
U.S. Army Corps of Engineers (Total)	0.136	0.015	0.003
Stream Habitat (Other Waters)	0.136	0.015	0.003
Regional Water Quality Control Board (Total)	0.243	0.042	0.003
Stream Habitat	0.136	0.015	0.003
Vegetated Riparian Habitat	0.107	0.027	0
California Department of Fish and Wildlife (Total)	0.243	0.042	0.003
Stream Habitat	0.136	0.015	0.003
Riparian Habitat	0.107	0.027	0

Figure 2-13 Impacts to Jurisdictional Areas, Location 9

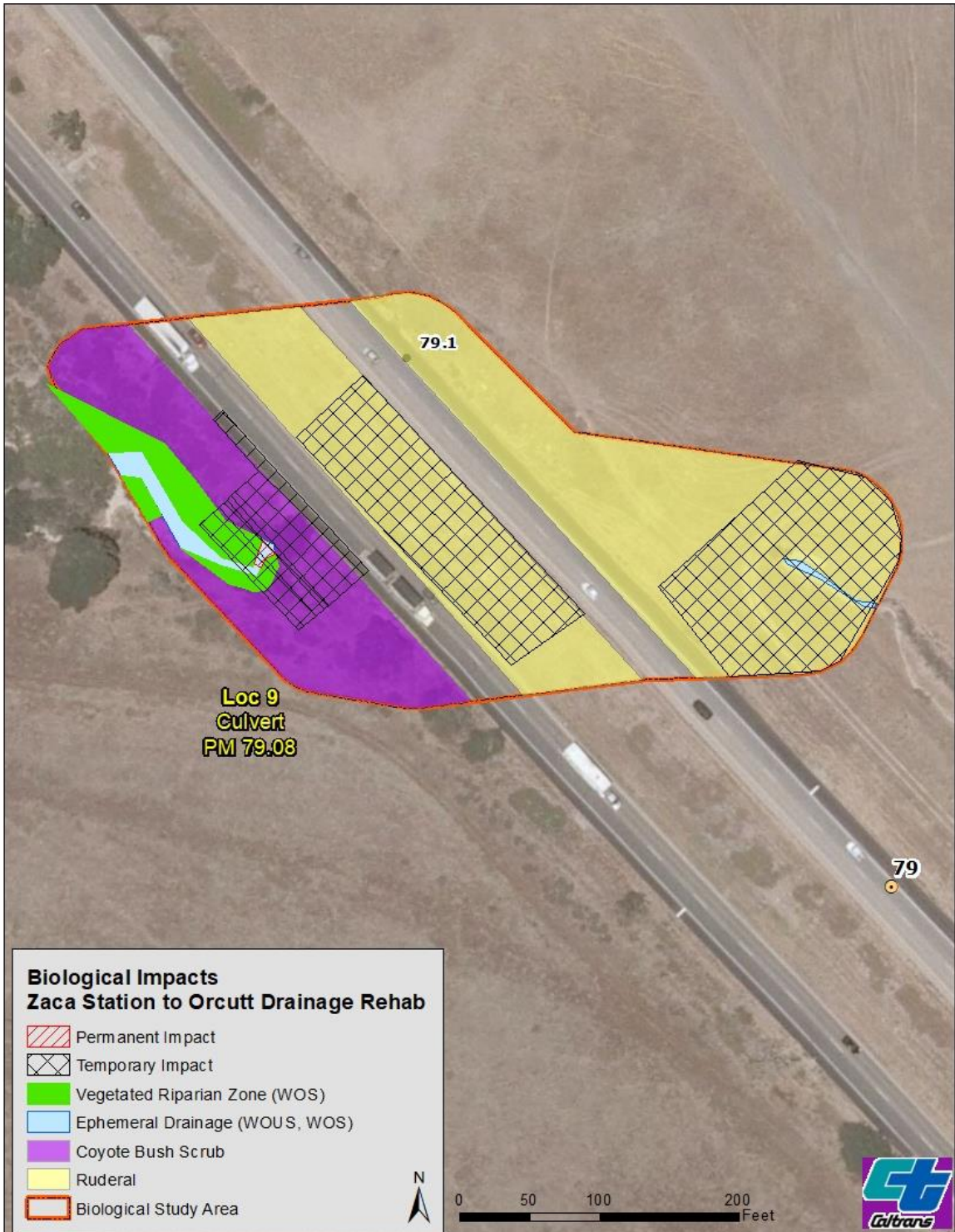
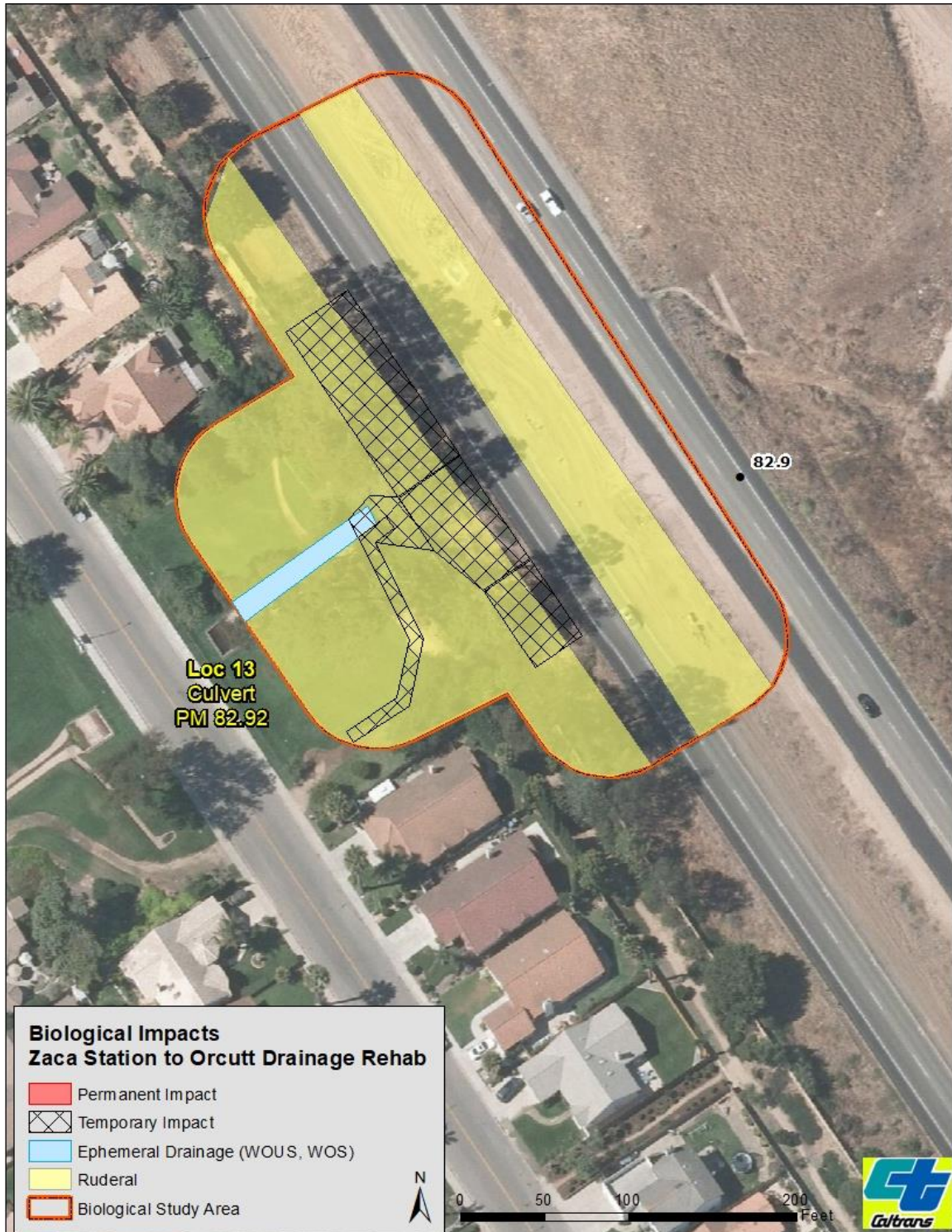


Figure 2-14 Temporary Impacts to Jurisdictional Areas, Location 13



Oak Trees

Limited tree and shrub trimming or removal may be required for construction. A total of approximately four coast live oak trees may be removed, currently identified at the following locations:

- Location 1 at post mile 65.3 (1 tree)
- Location 2 at post mile 65.53 (2 trees)
- Location 9 at post mile 79.08 (1 tree)

These estimated impacts are based on early design information. Specific tree removal or trimming details will be developed during the design phase of the project.

Avoidance, Minimization, and Mitigation Measures

California Tiger Salamander

The following avoidance and minimization measures will be implemented for potential impacts to the California tiger salamander upland habitat resulting from the project:

1. Caltrans will evaluate and survey all potentially suitable habitat areas within the areas of potential impact to determine suitability for the California tiger salamander, and designate such areas as California tiger salamander special protection areas in project plans and specifications.
2. Caltrans will obtain U.S. Fish and Wildlife Service and California Department of Fish and Wildlife approval of Designated Biologist(s) and Designated Monitor(s) prior to project-related activities that may result in impacts to the California tiger salamander. The Designated Biologist or Designated Monitor with the appropriate permits will be present to conduct surveys prior to and monitor all initial ground- or vegetation-disturbing activities in California tiger salamander special protection areas to help minimize or avoid impacts. Designated Monitors will monitor project activities after initial ground-disturbing activities have been completed, provided the permitted Designated Biologist is readily available should the need arise to relocate a California tiger salamander.
3. Caltrans will submit a relocation plan to the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife for approval prior to construction. The Designated Biologist and/or Designated Monitors who handle the California tiger salamander will ensure that their activities do not transmit diseases or pathogens harmful to amphibians, such as chytrid fungus (*Batrachochytrium dendrobatidis*), by following the fieldwork code of practice developed by the Declining Amphibians Task Force.
4. Work activities that could potentially harm the California tiger salamander will be stopped until the Designated Biologist arrives to relocate the California tiger salamander to the pre-approved location. If the Designated

Biologist or Designated Monitor recommends that work be stopped, the biologist or monitor will notify the Resident Engineer immediately. The Resident Engineer will resolve the situation by requiring that all actions that are causing these effects be halted.

5. Before any activities begin, the approved biologist will conduct an education program for all persons employed or otherwise working on the project site prior to performing any work onsite. The program will include a discussion of the biology of the California tiger salamander and project-specific avoidance and minimization measures. Upon completion of the program, employees will sign a form stating they attended the program and understand all protection measures.
6. Caltrans will limit all project-related vehicle and pedestrian access to established roads and staging areas. Caltrans will locate staging areas within previously disturbed areas to the extent possible, clearly delineate them, and they will contain all project-related parking and storage needs. Caltrans will limit the number of access routes, size of staging areas, and the total area of activity to the maximum extent feasible to achieve the project.
7. During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.
8. Before work activities begin, the Designated Biologist will identify and flag all burrow features that the biologist determines may serve as suitable refuge habitat for the California tiger salamander at California tiger salamander species protection areas subject to ground disturbance. The Designated Biologist will excavate the flagged burrows that cannot be avoided using hand tools or via gentle excavation using construction equipment under the biologist's direct supervision.
9. If work will occur in a California tiger salamander special protection area between October 1 and May 31, temporary California tiger salamander exclusionary fencing will be installed during dry conditions prior to work within the California tiger salamander special protection area to protect California tiger salamander habitat outside of the California tiger salamander special protection area and prevent individuals from dispersing into work areas. The Designated Biologist or Monitor will inspect the area regularly when work is scheduled within a California tiger salamander special protection area to ensure the integrity of the fence and that workers avoid entering California tiger salamander habitat outside of the California tiger salamander special protection area.
10. Caltrans will consult the National Weather Service 24-hour forecast daily. If there is over a 70 percent chance of precipitation forecasted, the Designated Biologist will survey the work area to ensure that California tiger salamanders have been cleared.

11. No work will occur in a California tiger salamander special protection area when there is over a 70 percent chance of greater than 0.5-inch precipitation (high rainfall) during a 24-hour period.
12. If an unpredicted rainfall event commences while construction activities are in progress, Caltrans will suspend all work activities in a California tiger salamander special protection area until the Designated Biologist surveys the work area to ensure that California tiger salamanders have been cleared.
13. As part of California Endangered Species Act and Federal Endangered Species Act consultations, Caltrans expects that compensatory mitigation will be required to offset habitat impacts resulting from the project. The following mitigation estimates have been made for this project, according to mitigation ratios required by the California Department of Fish and Wildlife for other Caltrans projects with California tiger salamander impacts:
 - 3 to 1 mitigation ratio for permanent impacts = 0.05 acre
 - 1 to 1 mitigation ratio for temporary impacts = 18.03 acres

A total of up to 18.08 acres of compensatory mitigation is proposed. These mitigation values are based on a worst-case scenario of potential impacts to California tiger salamander upland habitat. Caltrans will determine actual mitigation credits based on an evaluation and survey of all potentially suitable habitat areas within the area of potential impact and calculation of the value of impacted California tiger salamander habitat using the methodology outlined in Searcy and Shaffer (2008). Prior to initiating ground- or vegetation-disturbing project activities, Caltrans will satisfy the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife requirement to provide California tiger salamander habitat mitigation by purchasing credits at a California Endangered Species Act-certified and California Department of Fish and Wildlife-approved Conservation Bank (La Purisima Bank) authorized to sell credits for the California tiger salamander. Details regarding the exact amount of mitigation required will be developed during the California Endangered Species Act and Federal Endangered Species Act consultation process.

14. Caltrans shall design new and replacement lights to avoid and minimize an increase in illumination into natural habitat areas through the use of shields, specifying fixtures that can utilize bulbs that produce light at or under 2700 kelvins, or other design modifications, as feasible.

California Red-Legged Frog

The following measures will be implemented to avoid and minimize potential adverse impacts to the California red-legged frog from the project (complies with the Caltrans Programmatic Biological Opinion with the U.S. Fish and Wildlife Service):

1. A biologist with experience in the identification of all life stages of the California red-legged frog and other special-status wildlife that may be in the area will survey the project site no more than 48 hours before the onset of work activities in suitable habitat areas. If any life stage of the California red-legged frog is detected, the U.S. Fish and Wildlife Service will be notified prior to the start of construction. If Caltrans and the U.S. Fish and Wildlife Service determine that adverse effects to the California red-legged frog or its critical habitat cannot be avoided, the proposed project will not commence until the Caltrans completes the appropriate level of consultation with the U.S. Fish and Wildlife Service.
2. Work activities will take place in ephemeral stream habitat during the dry season between April 1 and November 1, when water levels are typically at their lowest.
3. Before work begins on any proposed project, a biologist with experience in the identification of all life stages of the California red-legged frog and other special-status wildlife that may be in the area will conduct a training session for all construction personnel, which will include a description of the California red-legged frog and other special-status wildlife that may be in the area, and specific measures that are being implemented to avoid adverse effects to the subspecies during the proposed project.
4. If any life stage of the California red-legged frog is detected in the project area during construction, work will cease immediately and the Resident Engineer, authorized biologist, or biological monitor will notify the Santa Barbara Fish and Wildlife Office. If Caltrans and the U.S. Fish and Wildlife Service determine that adverse effects to California red-legged frogs cannot be avoided, construction activities will remain suspended until Caltrans and the U.S. Fish and Wildlife Service complete the appropriate level of consultation.
5. During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.
6. Prior to the onset of work, Caltrans will ensure that a plan is in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to implement should a spill occur.
7. If a work site is to be temporarily dewatered by pumping, the intake will be screened with wire mesh not larger than 0.2 inch to prevent any California red-legged frogs or other aquatic species not initially detected from entering the pump system. If California red-legged frogs are detected during dewatering, and adverse effects to California red-legged frogs cannot be avoided, construction activities will remain suspended until Caltrans and the U.S. Fish and Wildlife Service complete the appropriate level of consultation.

8. Unless approved by the U.S. Fish and Wildlife Service, water will not be impounded in a manner that may attract California red-legged frogs or other special-status wildlife species.
9. A qualified biologist will permanently remove any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes from the project area, to the maximum extent possible. The biologist will be responsible for ensuring his or her activities are following the California Fish and Game Code.
10. Decontaminate all tools, waders and boots, and other equipment that will enter aquatic habitat prior to entering and exiting the project site and/or between each use in different water bodies to avoid the introduction and transfer of organisms between water bodies. Acceptable decontamination methods include drying for a minimum of 48 hours, removing mud, algae and debris, then cleaning with a 70 percent ethanol or bleach solution (0.5 to 1.0 cup per 1.0 gallon of water), or a hot water soak or pressure wash at 140°Fahrenheit or hotter. Repeat decontamination is required only if the equipment/material is removed from the site, used within a different water body, and returned to the project site. Decontamination shall occur in a location where runoff can be contained and not allowed to pass into waters and other sensitive habitat areas.
11. Caltrans shall add a ramp at culvert location 9 to improve access for California red-legged frogs and other animals across the highway.

Western Spadefoot, Northern Legless Lizard, and Coast Horned Lizard

Avoidance and minimization measures for the California tiger salamander apply to the western spadefoot, northern legless lizard, and coast horned lizard. In addition:

1. If western spadefoots, northern legless lizards, or coast horned lizard snakes are detected in the project limits during construction, a qualified biologist or trained designee will move them out of harm's way.

American Badger

Avoidance and minimization measures for the California tiger salamander apply to the American badger. In addition:

1. If burrows suitable for the American badger are detected in the project limits during construction, a qualified biologist will evaluate the potential presence of American badgers and coordinate with the California Department of Fish and Wildlife if badgers are present and need to be moved out of harm's way.

Special-Status and Other Nesting Birds

The following avoidance and minimization measures will be implemented to minimize impacts to nesting migratory birds:

1. Caltrans will schedule vegetation removal from September 1 to February 14, outside of the typical nesting bird season, as feasible. If construction activities are proposed to occur within 100 feet of potential habitat during the nesting season (February 15 to August 31), a nesting bird survey will be conducted by a qualified biologist no more than three days prior to construction. The contractor may only remove partially built nests if they have been monitored by a qualified biologist and determined to be inactive. If an active nest is found, the Caltrans biologist will determine an appropriate buffer based on the habits and needs of the species. The buffer area will be avoided until a qualified biologist has determined that juveniles have fledged and are no longer dependent on the nest.
2. Active bird nests must not be disturbed, and eggs or young of birds covered by the Migratory Bird Treaty Act and California Fish and Game Code must not be killed, destroyed, injured, or harassed at any time.

Townsend's Big-eared Bat, Pallid Bat, and Other Roosting Bats

The following avoidance and minimization measures are recommended for roosting bats:

1. Caltrans shall incorporate design features in the culvert at Location 9 (post mile 79.08) to facilitate bat roosting, such as architectural treatments that would add texture or groves.
2. Caltrans will require that the contractor develop a "bat exclusion" plan detailing the methods and technique intended to exclude bats from Location 9 (post mile 79.08) with the least possible level of disturbance. At a minimum, this plan should include installation of bat exclusion devices after the fall migration (mid-November) and be designed to last until the work is complete.
3. Exclusion materials and the installation of exclusion devices must not inadvertently trap bats or birds. Exclusion devices must be monitored regularly and repaired as soon as an issue arises.
4. A qualified biologist will be present during any bat exclusion processes to confirm the absence of bats, approve the quality of the work, and prevent any direct harm to bats. If an active day roost is found, a qualified Caltrans biologist will determine an appropriate buffer based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that roosting activity has ceased, or exclusionary methods have successfully excluded roosting bats. Active bat maternity roosts will not be disturbed or destroyed at any time.

Jurisdictional Wetlands, Other Waters, and Riparian Habitat

The following avoidance and minimization measures will be implemented for potential impacts to jurisdictional areas resulting from the project:

1. Prior to construction, Caltrans shall obtain a Section 404 Nationwide Permit from the U.S. Army Corps of Engineers, a Section 401 Water

Quality Certification from the Regional Water Quality Control Board, and a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife. All permit terms and conditions will be incorporated into construction plans and implemented.

2. Prior to construction, Caltrans will prepare a Mitigation and Monitoring Plan to offset impacts to vegetation and natural habitats. The plan will be consistent with federal and state regulatory requirements and will be amended with any regulatory permit conditions, as required. Caltrans will implement the Mitigation and Monitoring Plan as necessary during construction and following project completion. During construction, work within jurisdictional areas will be limited to the low-flow period from May 1 to October 31 in any given year, when the surface water is likely to be dry to seasonally minimal. Deviations from this work window will be made only with concurrence from relevant regulatory/resource agencies.
3. Prior to any ground-disturbing activities, Environmentally Sensitive Area boundary markers or fencing will be installed around jurisdictional resources and the dripline of trees to be protected within the project limits. Caltrans-defined Environmentally Sensitive Areas will be noted on design plans and delineated in the field prior to the start of construction activities.
4. Removal of native vegetation in riparian habitats will be minimized by trimming above the ground surface rather than grubbing out roots wherever feasible.
5. Prior to construction, the contractor will prepare and sign a Water Pollution Control Plan or a Storm Water Pollution Prevention Plan that complies with the Caltrans Stormwater Quality Handbook. Provisions of this plan will be implemented during and after construction as necessary to avoid and minimize erosion and stormwater pollution in and near the work area.
6. During construction, all project-related hazardous materials spills within the project site will be cleaned up immediately. Readily accessible spill prevention and cleanup materials will be kept by the contractor onsite at all times during construction. During construction, pollution and erosion control measures will be implemented. Silt fencing, fiber rolls, or barriers will be installed, as needed, between the project construction features and any stream, water body or riparian habitat. The discharge of wet concrete, concrete dust, sediment, construction debris or other pollutants into any stream or waterbody will be prevented.
7. Staging areas for equipment and vehicle fueling and storage will be located at least 100 feet away from the top of the bank of any stream or aquatic area, or otherwise protected to prevent accidental discharge of fluids and other pollutants into the stream.
8. Minimize impacts to native trees wherever feasible by minimizing native tree removal, limiting temporary impact areas, and replanting trees that must be removed.

9. During construction, avoid spreading invasive species and pathogens by requiring that weeds designated for removal will be removed prior to disturbing surface soils and disposed of the same day they are removed, that all nursery stock be certified free of weeds, Phytophthora, or other plant diseases, and that imported soil is certified weed-free from a Caltrans-approved source with protocols in place for minimizing the spread of Phytophthora and other plant diseases.
10. After construction has been completed, natural contours and vegetation will be restored as close as possible to their original condition following landscaping plans.
11. To prevent a net loss of wetlands or other aquatic resource acreage, functions, and values, compensatory mitigation is proposed at a 1 to 1 ratio (acreage) for temporary impacts to stream and riparian habitats and a 3 to 1 ratio (acreage) for permanent impacts to stream and riparian habitats. Caltrans will replace native trees that are removed from the jurisdictional areas at a ratio of 5 to 1. Mitigation for permanent impacts to riparian and stream habitats is expected to be completed onsite by replacing non-native and invasive species with native riparian species.

Oak Trees

The following measures will be implemented for potential impacts to oak trees resulting from the project:

1. Prior to any ground-disturbing activities, Environmentally Sensitive Area (ESA) boundary markers or fencing will be installed around the dripline of trees to be protected within the project limits.
2. Oak trees will be replanted within the Caltrans right-of-way within the project area as part of the project’s landscaping.

2.1.5 Cultural Resources

Considering the information in the Cultural Resources Screened Undertaking Memo dated November 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Cultural Resources
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	No Impact

Question—Would the project:	CEQA Significance Determinations for Cultural Resources
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	No Impact

2.1.6 Energy

Implementation of the proposed project would result in the short-term use of fossil fuels, electricity, and natural gas by construction vehicles and equipment to replace and repair infrastructure such as drainage culverts, lighting, and Transportation Management System elements. The use of these resources would be temporary and would not result in a significant demand on resources.

No direct or indirect effects related to wasteful, inefficient, or unnecessary energy consumption will occur. The project will not conflict with or obstruct any state or local plans for renewable energy or energy efficiency. Considering the information included in the Climate Change Technical Memo dated August 15, 2021 and the Air Quality, Greenhouse Gas, Noise and Water Quality Assessment Memo dated December 2020, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Energy
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact

2.1.7 Geology and Soils

The project site is not located in an area that is designated by the California Department of Conservation as an Earthquake Fault Zone within the Alquist-Priolo Earthquake Fault Zoning Map. The Los Alamos Fault runs parallel to State Route 101 and is closest to the highway between post miles 65.4 and 65.1. The culvert at post mile 65.3 is an individual project element that falls close to the fault, but the project does not add any new structures. According to Santa Barbara County’s 2011 Multi-Jurisdiction Hazard Mitigation Plan, the site is not mapped in an area of potential for high severity liquefaction or in an area of high potential for ground shaking.

According to the Natural Resources Conservation Service Web Soil Survey, the soils at the various study areas have a variety of soil substrates, including Betteravia loamy sand, Botella loam, Chamise sandy loam, Corralitos sand,

Elder sandy loam, Garey sandy loam, Gaviota sandy loam, Marina sand, Oceano sand, San Andreas-Tierra complex, and Tierra loamy sand. Most soils in the study area have a high percentage of sand and generally are not considered expansive soils. In addition, the plasticity index for the mapped soils do not plot as expansive soils.

The project does not include the installation of a septic tank or the requirement for wastewater disposal. A construction Stormwater Pollution Prevention Plan will be prepared, and Best Management Practices will be implemented during construction to ensure water quality is protected.

The Paleontological Identification Report dated September 2021 did not identify any potential for encountering paleontological resources as a result of the project. Considering this information, no impacts to geology and soils are anticipated as a result of the project, and the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Geology and Soils
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> 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. 	No Impact
ii) Strong seismic ground shaking?	No Impact
iii) Seismic-related ground failure, including liquefaction?	No Impact
iv) Landslides?	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	No Impact
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	No 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?	No Impact

Question—Would the project:	CEQA Significance Determinations for Geology and Soils
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No Impact

2.1.8 Greenhouse Gas Emissions

Considering the information in the Climate Change Technical Memo dated August 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Greenhouse Gas Emissions
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No Impact

Affected Environment

The project lies along a 20-mile segment of State Route 101 in Santa Barbara County and runs north-south between Orcutt and south of Los Alamos. The project consists of land designated mostly as grazing with some areas designated as farmland. Within Los Alamos and Orcutt, the land use is designated as urban and built-up land. Agriculture, open space, recreation, larger-lot residences, and varied industry make up much of the land use in the project area. The Santa Barbara County Association of Governments’ Regional Transportation Plan guides transportation development in the area.

The California Air Resources Board sets regional targets for California’s 18 Metropolitan Planning Organizations to use in their Regional Transportation Plan/Sustainable Communities Strategy to plan future projects that will cumulatively achieve greenhouse gas reduction goals. Targets are set at a percentage reduction of passenger vehicle greenhouse gas emissions per person from 2005 levels. The regional reduction target for the Santa Barbara County Association of Governments is 13 percent by 2020 and 17 percent by 2035.

The County of Santa Barbara adopted the Energy and Climate Action Plan in May 2015 with a goal of reducing greenhouse gas emissions in the unincorporated parts of the county by 15 percent below 2007 levels by 2020. Transportation measures were anticipated to contribute 12 percent of the projected greenhouse gas reductions.

Environmental Consequences

Operational Emissions

The purpose of the project is to repair and/or replace existing culverts, lighting, and Transportation Management System elements, and would not increase the capacity of State Route 101. This type of project generally causes minimal or no increase in operational greenhouse gas emissions. Because the project would not increase the number of travel lanes on State Route 101, no increase in vehicle miles traveled would occur as a result of project implementation. While some greenhouse gas emissions during the construction period would be unavoidable, no increase in operational greenhouse gas emissions is expected.

Construction Emissions

Construction greenhouse gas emissions would result from material processing, onsite construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Construction greenhouse gas emissions were estimated using Caltrans' Construction Emissions Tool and default settings for a storm water and drainage project. The estimated carbon dioxide emissions would total 145 tons generated over a period of about 100 days for project construction.

Avoidance, Minimization, and/or Mitigation Measures

The following measures will be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project:

1. The project will revegetate at a ratio of at least 3 to 1, where applicable, following construction completion. Landscaping reduces surface warming and, through photosynthesis, removes carbon dioxide from the atmosphere.
2. The project will use appropriately sized equipment for project activities.
3. The project will maintain equipment in proper tune and working condition.

4. The project will limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment.

2.1.9 Hazards and Hazardous Materials

Hazardous materials are not proposed to be used, transported, or disposed of as a result of the project, and no hazardous emissions or hazardous materials will be emitted or handled during construction. There are no hazardous waste sites or businesses commonly associated with hazardous waste generation nearby that would impact the project site. The project location is not included on the Cortese List pursuant to Government Code Section 65962.5 accessed January 3, 2022. Encountering hazardous waste issues/materials is not anticipated for the project. All waste and debris from construction will be disposed of properly. None of the project locations are within a quarter mile of any schools, or within 2 miles of an airport. Considering the information in the Initial Site Assessment dated September 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hazards and Hazardous Materials
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	No Impact
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?	No Impact
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
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

Question—Would the project:	CEQA Significance Determinations for Hazards and Hazardous Materials
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
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No Impact

2.1.10 Hydrology and Water Quality

The project does not involve substantial excavation or earthwork activities that would cause or exacerbate existing sedimentation conditions of Orcutt Creek. Further, the replacement of drainage should prevent future drainage damage caused by corrosion, deformation, perforation, damaged inverts, shape loss, joint separation, undermined backfill, and overall deterioration. By incorporating appropriate engineering design and robust storm water Best Management Practices during construction, minimal short-term water quality impacts are anticipated. The project would not result in significant long-term impacts to water quality. Considering the information from the Water Quality Technical Assessment Memo dated December 2020, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality?	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No Impact

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
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 onsite or offsite;	No Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;	No Impact
(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	No Impact
(iv) impede or redirect flood flows?	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact

2.1.11 Land Use and Planning

Considering the information in the Project Report dated March 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Land Use and Planning
a) Physically divide an established community?	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?	No Impact

2.1.12 Mineral Resources

Considering information from the Caltrans Division of Environmental Analysis Geographical Information Systems Library, there are no mineral resources such as mine locations, mining districts, oil and gas seeps, or mining disturbed areas located within the project limits. Therefore, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Mineral Resources
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?	No Impact
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

2.1.13 Noise

Considering the information in the Air Quality, Greenhouse Gas, Noise and Water Quality Technical Assessment Memo dated December 2020, the following significance determinations have been made:

Question—Would the project result in:	CEQA Significance Determinations for Noise
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?	Less Than Significant Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	No Impact
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

Affected Environment

The overall project setting is mostly rural with agricultural land, open space, vineyards, and ranches. Within the project limits, State Route 101 passes through the towns of Orcutt and Los Alamos where there are commercial and residential properties near the highway.

Environmental Consequences

Permanent (Long-term) Impacts

Since no capacity will be added to the highway and the vertical and horizontal profile of the highway will be the same after construction, it is assumed that local noise levels will be the same after completion of the project as they were before. Long-term noise abatement measures are not anticipated with this project.

Temporary (Construction) Impacts

It is inevitable that local noise levels in the vicinity of any given location will experience a short-term increase due to construction activities. The amount of construction noise will vary with the particular activities associated with each location and the models and types of equipment used by the contractor. Caltrans policy states that normal construction equipment should not emit noise levels greater than 86-dBA at 50 feet from the source from the job site from 9:00 p.m. to 6:00 a.m. Adverse noise impacts from construction are not anticipated because construction would be temporary and intermittent, conducted in accordance with Caltrans Standard Specifications, and because local noise levels are significantly influenced by local traffic noise.

Avoidance, Minimization, and/or Noise Abatement Measures

To minimize impacts on residents' normal nighttime sleep schedules, it is recommended that, whenever possible, construction work be done during the day. If nighttime construction is necessary, the noisiest construction activities should be done as early in the evening as possible.

Include the following general measures in the Resident Engineer binder, and implement as appropriate to further minimize temporary construction-noise impacts:

1. Notify the public in advance of the construction schedule when construction noise and upcoming construction activities likely to produce an adverse noise environment are expected. This notice shall be given two weeks in advance. Notice should be published in local news media of the dates and duration of proposed construction activity. The District 5 Public Information Office posts notice of the proposed construction and potential community impacts after receiving notice from the Resident Engineer.
2. Shield loud pieces of stationary construction equipment if complaints are received.
3. Locate portable generators, air compressors, etc. away from sensitive noise receptors as feasible.

4. Limit grouping major pieces of equipment operating in one area to the greatest extent feasible.
5. Use newer equipment that is quieter and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Internal combustion engines used for any purpose on or related to the job shall be equipped with a muffler or baffle of a type recommended by the manufacturer.
6. Consult District noise staff if complaints are received during the construction process.

2.1.14 Population and Housing

The project will not have an impact on population and housing. No additional housing or development is proposed, nor does the project remove or displace any existing housing.

Question—Would the project:	CEQA Significance Determinations for Population and Housing
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

2.1.15 Public Services

Question:	CEQA Significance Determinations for Public Services
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?	No Impact
Police protection?	No Impact
Schools?	No Impact
Parks?	No Impact
Other public facilities?	No Impact

2.1.16 Recreation

Question—Would the project:	CEQA Significance Determinations for Recreation
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No Impact
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

2.1.17 Transportation

Question—Would the project:	CEQA Significance Determinations for Transportation
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No Impact
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact
d) Result in inadequate emergency access?	No Impact

2.1.18 Tribal Cultural Resources

Considering the information in the Cultural Resources Screened Undertaking Memo, the following significance determinations have been made:

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:

Question:	CEQA Significance Determinations for Tribal Cultural Resources
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	No Impact
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No Impact

2.1.19 Utilities and Service Systems

Question—Would the project:	CEQA Significance Determinations for Utilities and Service Systems
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?	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact
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?	No Impact
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?	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact

2.1.20 Wildfire

Considering the information in the Caltrans Division of Environmental Analysis Geographical Information Systems Library, the project location is in an area of moderate to high fire hazard severity zone but is not in an area of very high fire hazard severity zone. The following significance determinations have been made:

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

Question—Would the project:	CEQA Significance Determinations for Wildfire
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No Impact

Question—Would the project:	CEQA Significance Determinations for Wildfire
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?	No Impact
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?	No Impact
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?	No Impact

2.1.21 Mandatory Findings of Significance

Question:	CEQA Significance Determinations for Mandatory Findings of Significance
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	Less Than Significant Impact 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 Impact

Question:	CEQA Significance Determinations for Mandatory Findings of Significance
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less Than Significant Impact

The project will result in temporary and permanent impacts to jurisdictional wetlands, other waters, and riparian habitat as a result of ground disturbance and vegetation and tree removal necessary to repair the drainage culverts. With the proposed avoidance, minimization, and mitigation measures, the level of impacts would be reduced to less than significant.

The project would result in permanent and temporary impacts to upland California tiger salamander habitat. With the proposed avoidance, minimization, and mitigation measures, the level of impacts would be reduced to less than significant. In addition, the proposed measures would reduce the level of impacts to less than significant to other animal species, including the California red-legged frog, western spadefoot, northern legless lizard and coast horned lizard.

There may be temporary impacts on visual and aesthetics resources due to oak tree removal and vegetation trimming that may be required during project construction. However, vegetation is proposed to be preserved at the maximum extent possible and will be replaced at ratios determined by the project biologist and landscape architect.

Overall, with the implementation of appropriate avoidance, minimization, and mitigation measures, the project would not substantially degrade the quality of the environment.

Cumulative Impacts

To analyze potential cumulative impacts that the project would have on each resource, other projects were identified within the resource study areas, and a determination was made as to whether the proposed project would contribute to cumulative impacts. Other projects within the resource study areas include a 20-acre solar development near Location 11 (post mile 80.34), two residential development projects between Locations 11 and 12 (post mile 82.24), and two residential development projects in the urban limits of Los Alamos. In addition, Caltrans has four highway development projects within the resource study areas, including the North Buellton paving project near Location 17 (post mile 65.05), the Solomon Summit Rehabilitation project near Location 9, and three projects near Location 15 (post miles 70.7 to 71.2) that are either within or near Los Alamos.

Because impacts to nesting birds will be avoided, the proposed project will not contribute to cumulative impacts to nesting birds.

For the California tiger salamander, California red-legged frog, western spadefoot, northern legless lizard and coast horned lizard, some of the other projects could result in similar direct and indirect impacts to upland habitat as the proposed project, including possible disturbance to burrow and refugia habitat and potential harm or mortality. However, each project will be required to comply with the state and federal Endangered Species Acts and California Environmental Quality Act and are expected to propose measures to avoid, minimize, or mitigate project impacts. Each project is expected to offset its contribution to cumulative impacts. Due to the avoidance, minimization, and mitigation that this project proposes, it is anticipated that the proposed project will not result in a substantial contribution to the cumulative impacts to the California tiger salamander, California red-legged frog, western spadefoot, northern legless lizard and coast horned lizard or upland dispersal habitat.

For the American badger, due to the small scale of project impacts compared with the potential habitat in the resource study area, and with the implementation of impact minimization and mitigation measures, the proposed project is not expected to contribute to cumulative impacts to the American badger and badger habitat in the region.

For the Townsend's big eared bat and pallid bat, due to the small scale of impacts to bats and bat roosting habitat for the proposed project, and with the implementation of the avoidance, minimization and mitigation measures listed above, the proposed project will not contribute to cumulative impacts to bats or bat roosting habitat.

For jurisdictional wetlands, other waters, and riparian habitat, due to the small scale of project impacts to highly disturbed jurisdictional resources, and with the implementation of the avoidance, minimization and mitigation measures listed above, the proposed project will not contribute cumulative impacts to jurisdictional wetlands, waters, or riparian habitats in the region.

Appendix A Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov



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September 2021

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a nondiscriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

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<https://dot.ca.gov/programs/civil-rights/title-vi>.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

A blue ink signature of Toks Omishakin, written in a cursive style.

Toks Omishakin
Director

"Provide a safe and reliable transportation network that serves all people and respects the environment."

Appendix B Comment Letters and Responses

This appendix contains the comments received during the public circulation and comment period from May 10, 2022, to June 15, 2022, retyped for readability. The comment letters are stated verbatim as submitted, with acronyms, abbreviations, and any original grammatical or typographical errors included. A Caltrans response follows each comment presented. Copies of the original comment letters and documents can be found in Volume 2 of this document.

Comments from California Department of Fish and Wildlife

Comment 1: Impacts to Streams

Issue: The project may impact several tributaries within the Santa Maria River and San Antonio Creek watersheds.

Specific impact: The project may impact the water quality, natural flow, bed, bank, and channel of each water course resulting in impacts to fish, wildlife, and riparian habitat.

Why impact would occur: The project proposes to modify 13 culverts as described in Table 1.1 on page 5 of the MND. The culverts convey water across State Route 101 from tributaries within the San Antonio creek and Santa Maria River watersheds. Of the 13 culverts proposed for modification as part of this project, only three of them are identified as being subject to Fish and Game code section 1602. CDFW is concerned that there are several other culverts as part of the project that are also subject to Fish and Game Code section 1602.

Evidence impact would be significant: The project could result in reasonably foreseeable impacts on streams. Therefore, the project may have a significant impact on streams. CDFW requires a Lake and Streambed Alteration (LSA) Notification when a project activity may substantially adversely affect fish and wildlife resources.

Recommended potentially feasible mitigation measure(s):

Mitigation Measure #1: The project applicant must provide written notification to CDFW pursuant to section 1600 et seq. of the Fish and Game Code. Based on this notification and other information, CDFW shall determine whether a Lake and Streambed Alteration (LSA) Agreement is required prior to conducting the proposed activities. Please visit CDFW's Lake and Streambed Alteration Program webpage for information about LSA Notification and online submittal through the Environmental Permit Information Management System (EPIMS) Permitting Portal (CDFW 2022b).

CDFW's issuance of an LSA Agreement for a project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document of the Lead Agency for the project. To minimize additional requirements by CDFW pursuant to section 1600 et seq. and/or under CEQA, the CEQA document should fully identify the potential impacts to streams or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSA Agreement.

Mitigation Measure #2: If impacts to streams are unavoidable, Caltrans should provide compensatory mitigation for impacts on streams and associated plant communities. Any off-site mitigation should occur where a stream supports the same plant communities impacted by the project and preferably within the same watershed.

Recommendation: CDFW recommends fully avoiding permanent impacts to waters and riparian/wetland vegetation communities. If feasible, CDFW recommends redesigning the project to avoid permanent impacts to the existing drainages. CDFW also recommends Caltrans consider project alternatives that protects as much natural hydrologic processes as possible. CDFW recommends taking an inter-disciplinary approach to involve landscape architects, engineers, and wildlife biologists, and hydrologists to develop design alternatives that could fully avoid or lessen impacts to waters and riparian/wetland vegetation communities.

Response to Comment 1: As described in the Jurisdictional Delineation Report, "Several culvert locations within the BSA that were not identified as jurisdictional. These areas did not exhibit features characteristic of natural water conveyance. Culverts at PM 65.3, 66.69, 66.8, 73.04, 74.32, 75.92, 77.03, 82.24, and 83.64 did not have any jurisdictional features, as they were vegetated with a predominance of upland vegetation, and did not present signs of a natural bed or bank. Culverts at PM 65.53 and 79.14 have concrete or paved channels in the median, and these areas do not have any upstream or downstream connection to surface waters." Non-jurisdictional BSA locations are shown in representative photographs in Appendix C of the Jurisdictional Delineation Report. Caltrans biology staff are available for field review of any of the project locations if CDFW questions their potential for jurisdictional status.

Caltrans will submit a written notification to CDFW consistent with section 1600 of the Fish and Game Code, as summarized in Section 1.7 and page 55 of this document and Section 6.3 of the Natural Environment Study.

Caltrans will restore temporary impacts and provide compensatory mitigation for any permanent impacts on-site, as indicated on page 22 of the MND in Sections 5.1.1.3 (#10) and 5.1.1.4 of the NES. Mitigation will be implemented in the same watershed as impacts, or as otherwise approved by applicable regulatory

authorities. Caltrans will continue to plan to avoid and minimize impacts through the design phase of the project through an inter-disciplinary approach.

Comment 2: Wildlife Connectivity

Issue: The project may impact wildlife connectivity.

Specific impact: project activities have the potential to significantly impact wildlife movement of native resident species such as California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), coast horned lizard (*Phrynosoma blainvillii*); northern California legless lizard (*Anniella pulchra*); American badger (*Taxidea taxus*); and Western spadefoot (*Spea hammondi*).

Why impacts would occur: It is unclear whether wildlife connectivity was analyzed and taken into consideration when considering the proposed culvert strategies in Table 1.1. Roadways and associated culverts may increase population fragmentation, reduce survival by impeding movement to refugia habitat (i.e., disperse to adjacent habitat, locate food sources) or reproductive habitat (i.e., breeding habitat), and impede recolonization of potential habitat (Haddad et al., 2015). The table states that the culvert diameters at location 9 and 11 will be reduced and the culvert length at location 1 will be increased. Reduced diameters and increased lengths deter wildlife usage of various species.

Evidence impact would be significant: The ecological footprint of roads extends beyond its physical footprint due to road mortality, habitat fragmentation, and indirect impacts (Spencer et al, 2010).

Limiting movement and passage of species can lead to the reduction of genetic fitness in populations making them more vulnerable to changing or extreme conditions, the inability for populations to recolonize habitat after disturbance events (e.g. fires, floods, droughts), the loss of resident wildlife populations by altered community structure (e.g. species composition, distribution), and/or partial or complete loss of populations of migrant species due to blocked access to critical habitats (CDFW, 2009; Haddad et al., 2015; Nicholson et al., 2006). Studies indicate that due to climate change, connectivity to thermal refugia is increasingly becoming more important for conserving populations as well as genetic diversity (Morelli et al., 2017; Chen et al., 2011). Therefore, reducing culvert size, increasing culvert length, and preserving current culvert size, location, and invert without wildlife movement analyses may preserve existing barriers where an opportunity is present to design structures that allow for improved movement conditions.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #3: Integrate appropriate fencing to facilitate wildlife movement toward safe road crossings.

Recommendation: CDFW recommends Caltrans review and incorporate guidance from “Highway Crossings for Herptiles (Reptiles and Amphibians)” (CTC & Associates LLC., 2012), “California Amphibian and Reptile Crossing Preliminary Investigation” (Levine, 2013), and CDFW’s “Salmonid Stream Habitat Restoration Manual” (CDFW, 2009). Consult “An objective road risk assessment method for multiple species: ranking 166 reptiles and amphibians in California” to assess potential impacts to amphibians and reptiles within the project area (Brehme et al., 2018).

Response to Comment 2: Caltrans will work during the design phase to incorporate habitat connectivity improvements into the project at feasible locations. Caltrans will evaluate where fencing may be appropriate to facilitate wildlife to safe road crossings, and include feasible measures in the project design, taking into consideration highway safety standards. Proposed measures will be identified in the relevant permit applications.

Comment 3: Artificial Lighting Impacts on Wildlife

Issue: The project could impact native wildlife with artificial lighting.

Specific impacts: The project proposes to install 12 permanent lighting elements and conduct night work. Artificial lighting, whether permanent or temporary, has direct impacts on nocturnal wildlife behavior. The lighting elements are proposed at the Cat Canyon intersection and the Los Alamos interchange, both of which have adjacent stream crossings that could be impacted by artificial lighting. Additionally, the project proposes to modify 13 culverts along state route 101 which may require night work to avoid traffic delays in the daytime hours. Work in the night requires temporary artificial lighting which disrupts natural rhythms of wildlife.

Why impacts would occur: Artificial light pollution has the potential to significantly and adversely affect biological resources and the habitat that supports them. Artificial light spillage beyond the prism of the roadway into natural areas may result in a potentially significant impacts through substantial degradation of the quality of the environment.

The project proposes to install 12 permanent lighting elements at the Los Alamos intersection and the Cat Canyon intersection. Unlike the natural brightness created by the monthly cycle of the moon, the permanent and continuously powered lighting fixtures create an unnatural light regime that produces a constant light output. Continuous light output for 365 days a year can have significant impacts on fish and wildlife populations. The Los Alamos and the Cat Canyon intersections also are adjacent to stream channels. Stream channels are used as feeding corridors for bats and other sensitive wildlife species. Increased light has been known to disrupt feeding patterns of California bats. Stream channels are also used as nocturnal migratory pathways, which may be deterred by the increase in light pollution.

Road work often involves night work to reduce impacts on traffic flow. Page 63 of the MND suggests that night work is a possibility. Nightwork lighting and noise disrupts natural patterns of wildlife movement and foraging patterns. CDFW is concerned that night work wasn't adequately evaluated within the MND.

Evidence impact would be significant: Artificial lighting can disrupt the circadian rhythms of many wildlife species. Many species use photoperiod cues for communication (e.g., bird song; Miller 2006), determining when to begin foraging (Stone et al. 2009), behavior thermoregulation (Beiswenger 1977), and migration (Longcore and Rich 2004). Migration of salmonids can be slowed or halted by the presence of artificial lighting (Tabor et al. 2004, Nightingale et al. 2006). Phototaxis, a phenomenon which results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it (Longcore and Rich 2004). Artificial lighting can disrupt the production of melatonin in California tiger salamanders if they are exposed to it, altering metabolic rates and reducing tolerance to high temperatures (Perry et al. 2008). Additionally, salamanders could miss the cue to migrate if there is artificial light, which could affect breeding.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #4: Light Output Analysis. The lead agency should submit as part of the draft MND, Isolux Diagrams that note current light levels present during pre-project conditions and the predicted project light levels that will be created upon completion of the project. If an increase in light output from current levels to the projected future levels is evident, additional avoidance, minimization or mitigation shall be developed in coordination with the natural resource agencies to offset indirect impacts to State listed species such as California tiger salamander. Within 60 days of project completion the lead agency shall conduct a ground survey that compares projected future light levels with actual light levels achieved upon completion of the project through comparison of Isolux diagrams. If an increase from the projected levels to the actual levels is discovered additional avoidance, minimization or mitigation measures may also be required in coordination with the natural resource agencies. This analysis should be conducted across all potential alternatives and compared in table and map format.

Mitigation Measure #5: Light Output Limits. All LED's or bulbs installed as a result of the project shall be rated to emit or produce light at or under 2700 kelvin that results in the output of a warm white color spectrum.

Mitigation Measure #6: Vehicle Light Barriers. Solid barriers at a minimum height of 3.5 feet should be installed in areas where they have the potential to reduce illumination from overhead lights and from vehicle lights into areas outside of the roadway. Barriers should only be utilized as a light pollution minimization measure if they do not create a significant barrier to wildlife movement. Additional barrier types should be employed when feasible, such

as privacy slats into the spacing of cyclone fencing to create light barriers for areas outside the roadway.

Mitigation Measure #7: Reflective Signs and Road Striping. Retroreflectivity of signs and road striping should be implemented throughout the project to reduce the need for electrical lighting.

Mitigation Measure #8: Light Pole Modifications and Shielding. All light poles or sources of illumination that shall be new or replacement installations of existing light sources should be installed with the appropriate shielding to avoid excessive light pollution into natural landscapes or aquatic habitat with the project corridor in coordination with CDFW. In addition, the light pole arm length and mast heights should be modified to site specific conditions to reduce excessive light spillage into natural landscapes or aquatic habitat within the project corridor. In areas with sensitive natural landscapes or aquatic habitat the lead agency should also analyze and determine if placing the light poles at non-standard intervals has the potential to further reduce the potential for excessive light pollution caused by decreasing the number of light output sources in sensitive areas.

Response to Comment 3: Caltrans will prepare a Light Output Analysis during the design phase of the project and include the information, including Isolux Diagrams, with the Section 2081 Incidental Take Permit application for California tiger salamander. Caltrans determined that the former proposed new lighting at Location 16a (Cat Canyon) was not necessary and is no longer part of the proposed project. Caltrans will evaluate where additional light reduction design measures may be appropriate and feasible for the project during the design phase, taking into consideration highway safety standards. Proposed measures will be identified in the relevant permit applications.

Comment 4: Impacts to Oak Trees

Issue: The project could impact oak trees and oak woodlands

Specific impact: The project may result in loss of individual oak trees (*Quercus* genus) as well as acres of oak shrublands and woodlands.

Why impacts would occur: The MND states there is a potential for removal of oak trees at locations 1, 2, and 9. According to page 46 of the MND, there is a potential for four oak trees to be removed as a result of the project. Coast live oak (*Quercus agrifolia*) has a CNPS rarity ranking of S4.

Coast live oak and old-growth oak trees (native oak tree that is greater than 15 inches in diameter) are of importance due to increased biological values and increased temporal loss. Due to the historic and on-going loss of this ecologically important vegetation community, oak trees and woodlands are protected by local and State ordinances. CDFW considers oak woodlands a

sensitive vegetation community. Oak trees provide roosting habitat for bats as described in the MND on page 42. Oak trees also provide nesting and perching habitat for approximately 170 species of birds (Griffin and Muick 1990).

Evidence impacts would be significant: CDFW considers oak woodlands to be a sensitive plant community. Oak trees and woodlands are protected by the Oak Woodlands Conservation Act (pursuant under Fish and Game Code sections 1360-1372) and Public Resources Code section 21083.4 due to the historic and on-going loss of these resources. Moreover, CDFW's Areas of Conservation Emphasis - Significant Habitats dataset includes oak woodlands as a Terrestrial Significant Habitat based on its priority for conservation and acquisition planning for some counties, local jurisdictions, and the Wildlife Conservation Board (CDFW 2019).

Impacts to a Sensitive Natural Community should be considered significant under CEQA unless impacts are clearly mitigated below a level of significance. Without appropriate mitigation, the project may result in significant impacts on a Sensitive Natural Community if development facilitated by the project would remove, encroach into, or disturb (e.g., fuel modification) such resources.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #9: In order to ensure no net loss of oak trees/oak woodlands, CDFW recommends the following replacement ratios: (1) trees less than 5 inches diameter at breast height (DBH) should be replaced at 2:1; (2) trees between 5 and 12 inches DBH should be replaced at 3:1; (3) trees between 12 and 24 inches DBH should be replaced at 5:1; (4) trees greater than 24 inches DBH should be replaced at 10:1. Oak trees should be used to recreate functioning oak woodland of similar composition, density, structure, and function to the selected oak woodland that was impacted.

Response to Comment 4: Caltrans will adopt the recommended tree replacement ratios and incorporate replanting specifics into the project during the design phase.

Comment 5: Impacts to Bats

Issue: The project may have impacts to bats

Specific impacts: The project may result in direct and indirect impacts to bats. Direct impacts include removal of trees, vegetation, and culverts that provide roosting habitat and therefore has the potential for the direct loss of bats. Indirect impacts to bats and roosts could result from increased noise disturbances, human activity, additional artificial light, dust, vegetation clearing, ground disturbing activities (e.g., staging, access, excavation, grading), and vibrations caused by heavy equipment.

Why impacts would occur: Bats use trees and man-made structures for daytime and nighttime roosts (Avila-Flores and Fenton 2005; Oprea et al. 2009; Remington and Cooper 2014). The project site contains habitat for bats to forage and roost and the project proposes to modify existing culverts, add lighting elements, and remove several trees. Townsend's big-eared bats, a Species of Special Concern (SSC), were observed roosting in the box culvert at location 9. The project proposes to retrofit the 5 x 7-foot concrete box culvert with a 60-inch round culvert which will permanently impact the bat roosting habitat. Modifications to roost sites can have significant impacts on the bats' usability of the roost and can impact the bats' fitness and survivability (Johnston et al. 2004). Even minor disturbance can lead to the abandonment of roosts (Johnston et al. 2004).

Also, CDFW is concerned that the lighting increase is not adequately addressed in the MND as it pertains to the impact on foraging bats. Without a comprehensive analysis on the impacts the additional lighting elements will have on foraging and roosting, bats may be adversely impacted by project activities.

Evidence impact would be significant: Bats are considered non-game mammals and are afforded protection by State law from take and/or harassment (Fish & Game Code, § 4150; Cal. Code of Regs, § 251.1). Several bat species are considered SSC and meet the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15065). Take of SSC could require a mandatory finding of significance (CEQA Guidelines, § 15065).

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #10: CDFW recommends a qualified bat specialist conduct bat surveys to determine baseline conditions within the project site and within a 500-foot buffer to identify trees and/or structures (i.e., tunnels, maintenance buildings, food concession stands, comfort stations) that could provide daytime and/or nighttime roost sites. CDFW recommends using acoustic recognition technology to maximize detection of bats. Night roosts are typically utilized from the approach of sunset until sunrise. In most parts of California, night roost use will only occur from spring through fall while day roosts are typically utilized during the spring, summer, and fall in California (Johnston et al. 2004).

Mitigation Measure #11: Survey methodology and results, including negative findings, should be included in final environmental documents. Depending on survey results, please discuss potentially significant effects of the proposed project on the bats and include species specific mitigation measures to reduce impacts to below a level of significance (CEQA Guidelines, § 15125).

Mitigation Measure #12: If maternity roosts are found, CDFW recommends, the following three mitigation measures.

a) If maternity roosts are found, to the extent feasible, work shall be scheduled between October 1 and February 28, outside of the maternity roosting season when young bats are present but are not yet ready to fly out of the roost (March 1 to September 30).

b) If maternity roosts are found and if trees and/or structures must be removed/demolished during the maternity season, a qualified bat specialist shall conduct a pre-construction survey to identify those trees and/or structures proposed for disturbance that could provide hibernacula or nursery colony roosting habitat. Acoustic recognition technology will be used to maximize detection of bats. Each tree and/or structure identified as potentially supporting an active maternity roost shall be closely inspected by the bat specialist no more than 7 days prior to tree and/or structure disturbance to determine the presence or absence of roosting bats more precisely. If maternity roosts are detected, trees and/or structures determined to be maternity roosts shall be left in place until the end of the maternity season. Work shall not occur within 100 feet of or directly under or adjacent to an active roost and work shall not occur between 30 minutes before sunset and 30 minutes after sunrise.

c) If bats are not detected, but the bat specialist determines that roosting bats may be present at any time of year, trees will be pushed down using heavy machinery rather than felling it with a chainsaw. To ensure the optimum warning for any roosting bats that may still be present, trees shall be pushed lightly two to three times, with a pause of approximately 30 seconds between each nudge to allow bats to become active. The tree shall then be pushed to the ground slowly and remain in place until it is inspected by a bat specialist. Trees that are known to be bat roosts shall not be bucked or mulched immediately. A period of at least 24 hours, and preferably 48 hours, shall elapse prior to such operations to allow bats to escape. Bats shall be allowed to escape prior to demolition of buildings. This may be accomplished by placing one-way exclusionary devices into areas where bats are entering a building that allow bats to exit but not enter the building.

Mitigation Measure #13: CDFW recommends shielding bat habitat used for roosting or foraging from permanent and temporary artificial light sources.

Response to Comment 5: Caltrans biologists performed several general wildlife field surveys in the project area which included an evaluation of potential habitat for bats, and as well as a focused survey for bats by a qualified bat specialist of the sites that were considered potentially suitable (Section 3.2 of the NES). The biological study area was determined based on project scope and deemed sufficient to evaluate potential project impacts to wildlife. All but two of the structures in the study area were determined to be potentially suitable for roosting bats, as described in Section 5.3.6.1 of the NES.

An additional field review was conducted in July 2022, which resulted in new information on potential habitat conditions for bats at the proposed project locations. Many of the larger coast live oak trees and ornamental trees near culvert Locations 1-4 and lighting Location 15b provide potential roosting habitat, although tree roosting habitat is abundant in these areas away from the highway and bats are more likely to roost in trees that are not directly adjacent to a busy highway, particularly species that are sensitive to human disturbance like Townsend's big-eared bat and pallid bat.

Two Townsend's big-eared bats were observed on 7/14/22 in culvert Location 9, in the 60-inch concrete culvert across the northbound lanes as well as the 6 ft by 7 ft box culvert across the southbound lanes. Bat sign was also observed in the 5-ft square box culvert at former lighting Location 16a. The spalling concrete, seams, and rough concrete surfaces and dark interior of these culverts provide good roosting habitat. The structures are providing day or night roosting for small numbers of bats, but the limited amount of guano observed does not suggest that the structures are used for maternal roosting or large colonies of bats. No evidence of bats was observed in the box culvert at Location 11 or any of the other project culverts or structures near any of the other proposed lighting features.

The modified measures below will be implemented to minimize the impacts of the proposed project on bat:

1. Caltrans will incorporate design features in the culvert at Location 9 (PM 79.08) to facilitate bat roosting, such as architectural treatments that would add texture or groves.
2. Caltrans will require that the Contractor develop a "bat exclusion" plan detailing the methods and technique intended to exclude bats from Location 9 (PM 79.08) with the least possible level of disturbance. At a minimum this plan should include installation of bat exclusion devices after the fall migration (mid-November) and be designed to last until the work is complete.
3. Exclusion materials and the installation of exclusion devices must not inadvertently trap bats or birds. Exclusion devices must be monitored regularly and repaired as soon as an issue arises.
4. A qualified biologist will be present during any bat exclusion processes to confirm the absence of bats, approve the quality of the work, and to prevent any direct harm to bats. If an active day roost is found, a qualified Caltrans biologist will determine an appropriate buffer based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that roosting activity has ceased, or exclusionary methods have successfully excluded roosting bats. Active bat maternity roosts will not be disturbed or destroyed at any time.

5. Caltrans will work during the design phase to refine the scope of the project to avoid impacts to bats and if necessary, in specific locations incorporate appropriate minimization measures to reduce impacts to bats.

Comment 6: Impacts on California Species of Special Concern

Issue: The project may impact California Species of Special Concern.

Specific impacts: The project could result in loss of Townsend's big-eared bat (*Corynorhinus townsendii*); California red-legged frog (*Rana draytonii*), coast horned lizard (*Phrynosoma blainvillii*); northern California legless lizard (*Anniella pulchra*); American badger (*Taxidea taxus*); and Western spadefoot (*Spea hammondi*).

Why impacts would occur: According to Table 7 in the NES, the project site has the potential to support the above listed SSC. The project would require ground-disturbance and vegetation removal, both using heavy equipment. These activities create elevated levels of noise, human activity, dust, ground vibrations, and vegetation disturbance. Wildlife may be trapped or crushed under structures. Large equipment, equipment and material staging, and vehicle and foot traffic could trample or bury wildlife. project construction and activities, directly or through habitat modification, may result in injury or mortality, reduced reproductive capacity, population declines, or local extirpation of a SSC. Also, loss of foraging, breeding, or nursery habitat for a SSC may occur as a result of the project.

Evidence impacts would be significant: A California Species of Special Concern is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- Is extirpated from the State or, in the case of birds, is extirpated in its primary season or breeding role;
- Is listed as Endangered Species Act, but not CESA, threatened, or endangered; meets the State definition of threatened or endangered but has not formally been listed;
- Is experiencing, or formerly experienced, serious (nonscyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; and/or,
- Has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for CESA threatened or endangered status (CDFW 2022a).

CEQA provides protection not only for CESA-listed species, but for any species including but not limited to SSC which can be shown to meet the

criteria for State listing. These SSC meet the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15380).

Therefore, take of SSC could require a mandatory finding of significance (CEQA Guidelines, § 15065). Impacts to any sensitive or special status species should be considered significant under CEQA unless they are clearly mitigated, through appropriate disclosure of the proposed mitigation measures, below a level of significance.

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #14: Wildlife Relocation and Avoidance Plan. The project Applicant should retain a qualified biologist to prepare a Wildlife Relocation and Avoidance Plan. The Wildlife Relocation and Avoidance Plan should describe all SSC that could occur within the project site and proper avoidance, handling, and relocation protocols. The Wildlife Relocation Plan should include species-specific avoidance buffers and suitable relocation areas at least 200 feet outside of the project site.

Mitigation Measure #15: To avoid direct injury and mortality of SSC, the project Applicant should have a qualified biologist on site to move out of harm's way wildlife that would be injured or killed. Wildlife should be allowed to move away on its own (non-invasive, passive relocation), or relocated to suitable habitat adjacent to the project site. In areas where a SSC is found, work may only occur in these areas after a qualified biologist has determined it is safe to do so. Even so, the qualified biologist should advise workers to proceed with caution. A qualified biologist should be on site daily during initial ground and habitat disturbing activities as well as vegetation removal. Then, the qualified biologist should be on site weekly or bi-weekly (once every two weeks) for the remainder of the project phase until the cessation of all ground and habitat disturbing activities, as well as vegetation removal, to ensure that no wildlife is harmed.

Mitigation Measure #16: The project Applicant should retain a qualified biologist with appropriate handling permits, or should obtain appropriate handling permits to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with project construction and activities.

CDFW has the authority to issue permits for the take or possession of wildlife, including mammals; birds, nests, and eggs; reptiles, amphibians, fish, plants; and invertebrates (Fish & G. Code, §§ 1002, 1002.5, 1003).

Mitigation Measure #17: If any SSC are harmed during relocation or a dead or injured animal is found, work in the immediate area should stop immediately, the qualified biologist should be notified, and dead or injured wildlife documented immediately. A formal report should be sent to CDFW within three calendar days of the incident or finding. The report should include the

date, time of the finding or incident (if known), and location of the carcass or injured animal and circumstances of its death or injury (if known). Work in the immediate area may only resume once the proper notifications have been made and additional mitigation measures have been identified to prevent additional injury or death.

Response to Comment 5: Section 2.1.4 of this document and Sections 5.3.1.2, 5.3.2.2, 5.3.3.2, 5.3.4.2, and 5.3.6.2 of the NES describe potential project impacts to the species listed above.

NES Section 5.3.1.3 describes that Caltrans will prepare a relocation plan for California tiger salamander to CDFW for approval. That plan will include relocation of other special status species, as appropriate to the site.

Section 2.1.4 of this document and Sections 5.3.1.3, 5.3.2.3, and 5.3.1.3 of the NES already include appropriate special status species relocation measures. As per Section 5.3.1.3, Caltrans will have designated biologists available to relocate California tiger salamander, and those individuals will also relocate other special status species sufficiently permitted to be handled.

List of Technical Studies Bound Separately

- Air Quality, Greenhouse Gas, Noise and Water Quality Technical Assessment Memo
- Cultural Resources Screened Undertaking Memo
- Climate Change Technical Memo
- Initial Site Assessment
- Location Hydraulic Study
- Natural Environment Study
- Paleontological Investigation Report
- Visual Impact Assessment

To obtain a copy of one or more of these technical studies/reports or the Initial Study, please send your request to:

Jason Wilkinson
District 5 Environmental Division
California Department of Transportation
50 South Higuera Street
San Luis Obispo, CA 93401

Or send your request via email to: jason.wilkinson@dot.ca.gov
Or call: 805-540-9165

Please provide the following information in your request:

Project title: Zaca Station to Orcutt Drainage Rehabilitation

General location information: In Santa Barbara County on State Route 101 from Zaca Station Road near Los Alamos, to 0.2 mile south of Santa Maria undercrossing in Orcutt

District number-county code-route-post mile: 05-SB-101-PM 65/84.1

Project ID number: 05-1K510, 0518000215